# HEALTH

EDITED BY

DR. ANDREW WILSON, F.R.S.E., &c.

LONDON: *FRIDAY, APRIL* 4, 1884.


Contents of No. 52.


| | PAGE |
|---|---|
| Notes by the Way | 417 |
| Original Essays:— | |
| Gleanings from a Census. By Percy Russell | 418 |
| Some Commonplace Errors. By B. Dill | 419 |
| Personal Health:— | |
| The Morning Bath. By William White, F.S.A. | 421 |
| Dangers from Flies | 421 |
| The Family Circle:— | |
| Economical Breakfasts, Dinners, and Suppers. V. By Mrs. Thwaites | 422 |
| Recreation and Health:— | |
| Calisthenics, or Lessons in Physical Education. VIII. By H. C. Standage | 424 |
| Jottings from the Journals | 425 |
| Our Bookshelf | 426 |
| International Health Exhibition | 427 |
| Our Letter-Box:— | |
| Disease Germs in Water | 428 |
| The Battle of the Filters | 428 |
| Queries and Answers:— | |
| General | 429 |
| Sanitary | 429 |
| Medical | 429 |


## Notes by the Way

"Health is the foundation of all our physical happiness."—*Herder.*

More faith-healing and more quackery of so-called "religious" kind! A writer in the *Liverpool Daily Post* actually asks the public to believe that "cases of cancer, consumption, rheumatism, irritation in the skin (*sic*), chronic dyspepsia, spinal complaints (description or species not given), and deformities of the body (special kinds not described) have all been quickly removed through prayer of faith, the laying on of hands, and the will of God." Two letters from "faith-healed" subjects are quoted. One is from a clergyman, who says he suffered "from spinal pain and weakness for nearly thirty-three years." Now this is an utterly indefinite description of a malady. It may mean anything or nothing. Another correspondent suffered from "weak limbs," and had undergone an operation for straightening her legs. One of her legs was (so she says, at least) "four inches shorter than the other." Now, after a course of prayer and faith-healing, her legs are "equal in length, except at the heel, where there is only a difference of a quarter of an inch."

✣ ✣ ✣

Here we are met by a well-known and frequent case, in which probably a woman, who limped from muscular contraction and from nervous causes, became duly impressed with the notion that her leg is actually growing longer in answer to her prayers. Her "faith" enables her to do what the surgeons in the Salford Hospital, Manchester, could not persuade her to do—namely, to begin to use her limbs, and to conquer her fear of employing them freely. The result is, that by a strong mental effort she really overcomes her fears and walks. Mind triumphs over body, as in the case of the clergyman with the indefinite weak back. But to class the cure as a miracle, or to attribute it to anything else than the removal or modification of a malady which, as often as not, is of purely nervous type, is simply to relegate physiological experience to oblivion, and to revive the superstitions of the middle ages. We all know of the wonderful "cures" which may be accomplished by faith, especially in the case of nervous females. But it will require evidence of a different kind than that supplied by the correspondent of the *Daily Post* to convince sane persons that cancer and consumption, or even chronic dyspepsia, can be cured by the methods peculiar to apostolic times. Who, it might be asked, certified, *before cure*, that the cases were those of cancer, consumption, &c.? Do the Bethshans, as the "faith-healing" establishments are called, keep a certifying surgeon and physician on the premises? or are we to accept their own description of the maladies as correct? In the latter case, there would be great need for a full supply of "faith."

✣ ✣ ✣

In our last number we noted the discoveries of Dr. Koch relative to the "comma"-like cholera germ. Further details of interest respecting the latest news regarding the germ have since come to hand; and it may be interesting if we recapitulate these details by way of rendering our account of the discovery as complete as possible. We saw that none of these "comma"-like germs, or *bacilli*, had been detected in any bodies save those of cholera-patients; and that even in diseases somewhat resembling cholera—such as diarrhœa, dysentery, &c.—in general character these germs did not occur. The fact that the germs in question are limited to the intestine (or bowel), which, as every one knows, is the region attacked by the cholera-disease, also places the idea that they are the cause of the disease on a still firmer footing.

✣ ✣ ✣

It has long been known to physicians that contact with the linen worn by cholera patients has produced the disease in others. Dr. Koch relates the interesting fact that when such linen, containing the germs of cholera, has been kept moist for twenty-four hours the germs multiply at an excessive rate. The favouring effect of moisture on the cholera germs was also seen when they were allowed to grow and multiply on such a medium as moist blotting paper. Even in a moist soil they increase with fatal vigour, and it would thus seem that wet or moisture is a condition eminently favourable to the spread of the germs in question. This fact may explain why cholera is so frequently conveyed by water, and why the water supply of an infected region is always to be first suspected as the probable source of disease. In twenty-four hours a thin layer of matter, derived from the body of a cholera patient, and placed on a moist soil, was found to have been converted into a thick mass of germs.

✣ ✣ ✣

The above notes regarding the relation of the cholera-germ to moisture, as a condition favouring its growth, become of vast importance from the point of view which regards *disinfection* as a preventive of cholera-diffusion. It would appear as though heat and dryness are the foes of the cholera-germ; and that to disinfection by hot air or other form of drying process, we may look for safety from cholera-invasion. Dr. Koch tells us that the cholera germs die rapidly when dried. After three hours' drying they are completely destroyed; and this fact alone is the more wonderful, when we consider that some disease-germs resist drying and boiling, even when carried on for hours.

✣ ✣ ✣

Another fact of high practical interest, is found in Dr. Koch's statement that the bacilli will only grow in fluids which are *alkaline* in their nature. When *acids* are added to the fluid in which they are contained, their development is hindered or prevented. If these latter facts be thoroughly sound, we may expect to see an "acid" treatment of cholera tried in the East at no distant date. The prevention of cholera also becomes clear enough on the basis that sound general health is a condition through which we are able to ward off many diseases, the germs of which find no lodgment or encouragement to growth within healthy secretions. Thus in health, the secretions of the human stomach are probably acid enough to prevent any development of cholera-germs; but when digestive trouble or

general ill-health prevails, it can readily be imagined how the germs may find a suitable growing field in the disordered secretions of the digestive system.

✣ ✣ ✣

It is alleged that cholera has been communicated artificially, to lower animals, by inoculating them with the *bacillus* or germ. This, it will be remembered, was a feat which Dr. Koch failed to effect. Further confirmation of the success of the experiment is, however, required; but we can readily see why lower animals may resist attempts to impregnate them with the disease, when we consider that their secretions may be such as to kill the germs and thus to protect them against infection.

✣ ✣ ✣

We learn that H.R.H. the Prince of Wales will open the International Health Exhibition on Thursday, May 8, at 3 p.m.

✣ ✣ ✣

There appears to be a lively amount of misplaced ingenuity exercised in the United States over the adulteration of dairy products. A Committee of the Senate of New York has been inquiring into this matter, and has found that of 30 samples of butter examined, two-thirds were only indirectly related to the staple foundation of that article — namely, milk. Manufacturing ingenuity in America utilises the refuse fat of pigs and bullocks in butter manufacture. It cannot be enlivening for the minds of butter consumers to reflect that while refuse fat is bad enough, the "spoiled grease" to which they are also treated across the Atlantic must be many degrees worse. We also read that the "spoiled grease" in question had been treated with vitriol and other acids of sufficient strength to destroy a workman's cowhide boots. It is clear that sanitary inspection has not yet reached a high practical development in New York — provided the above facts, taken from a trustworthy source, are correct. And it is by no means comforting, in addition, to reflect that we import from America a considerable quantity of butter and cheese.

✣ ✣ ✣

Dover has recently suffered from an epidemic of throat disease, traceable, it appears, to an infected milk supply. The suspected dairy supplied eighty-two houses in which cases of disease occurred. Curiously enough, the dairy had a special milk supply for infants and nursery purposes, and that this supply was free from taint would appear proved by the fact that no case of disease could be traced to this source—most of the patients being above 17 years of age, and probably deriving their supply of milk from the ordinary (and infected) source. One notable point, reported upon by Dr. Robinson, of Dover, was that those persons who took cream instead of milk were seized with the disorder at an earlier date than those who drank milk. The cream would therefore appear to have contained the diseased material in more concentrated form than did the milk.

✣ ✣ ✣

It may be interesting to learn that the City of Paris spends annually in alcoholic liquors 575 millions of francs, equal to £23,000,000. In twelve years, it has been calculated, the Parisians have expended on wine and beer—575 milliards of francs, or £200,000,000, the amount of the war indemnity paid to Germany!

✣ ✣ ✣

Our next number (No. 53) begins the third volume of Health, and presents a favourable opportunity for the recommendation of the Journal by our readers to their friends.

# Original Essays

"Life is not to live, but to be well."—*Martial.*

## GLEANINGS FROM A CENSUS.

(*Vol. III. of the "Census of England and Wales for* 1881.")

By Percy Russell.

Although the systematic study of statistics as a science is not yet nearly two centuries old—the very term was not, I believe, invented until 1749 by Professor Achenwall, of Göttingen—few branches of knowledge have attained such precision, or achieved such extraordinary progress, as this, which is certainly destined to play the most prominent part in all matters governmental, and will no doubt in the end become the sure and solid basis of most of the sociological ideas of the not remote future. The issue of Vol. III. of the late Census (1881) accentuates these remarks, for this section of the returns, relating as it does to the occupations, conditions as to marriage, and ages and birthplaces of the people, is naturally fraught with very great interests, and even a hasty review of these elaborate tables throws very great light on the present state, and by inference on the future prospects of the nation.

First, let us take a comparative view of the period 1871-1881, with regard to the six great classes into which it is divided for Census purposes. In 1871, the total population was 22,712,266, including 11,653,332 females; the professional class numbered 684,102, including 197,984 females; the domestic class, 5,905,171, including 5,660,443 females; the commercial class, 815,424, including 57,237 females; the agricultural class, 1,657,138, including 186,696 females; the industrial class, 5,137,725, including 1,521,998 females; and, finally, the indefinite and non-productive class, 8,512,706, including 4,028,974 females. In the returns for 1881, we find that a total population of 25,974,439, including 13,334,537 females, is divided as under:—Professional, 647,075, including 196,120 females; domestic, 1,803,810, including 1,545,302 females; commercial, 980,128, including 19,467 females; agricultural, 1,383,184, including 64,840 females; industrial, 6,373,367, including 1,578,189 females; and indefinite and non-productive, 14,786,875, including 9,930,619 females. Obviously under the new enumeration a different principle has been followed in respect to the domestic and the so-called indefinite and unproductive classes; but it is noteworthy that the professional class has decreased by considerably over 30,000; the agricultural community, pure and simple, by much over a quarter of a million, and, *per contra*, the commercial and industrial classes have augmented prodigiously during the period.

Regarding the healing arts, it is of interest to contrast the two periods. According to the returns of 1871, the physicians and surgeons numbered 14,684, of whom, by the way, 433 were over the age of 75; medical assistants and students, 4,514, only 4 of these being over 75; dentists, 2,350, 12 being over 75; chemists and druggists, 19,190, no less than 128 being over 75, and 483 under that vague designation "others," no doubt a very miscellaneous fraternity. Passing to the returns relative to females for the same year, we find 494 acting as chemists and druggists, 2,215 as midwives, and 284 undefined. Reverting now to the Returns for 1881, physicians and surgeons number 15,091; dentists, 3,583; medical students, assistants, &c., 5,992; subordinate medical service, 1,972; chemists and druggists, 19,000, including, however, 631 females. Taking the female side of the accounts, we have 25 physicians and

surgeons, 64 students, 2,646 midwives, and in the subordinate medical service the large army of 35,175 members. It is evident here that except only in the instance of the chemists and druggists, there is a very great increase in the leaders as well as the rank and file of the great sanitary and hygienic forces of the nation. Under the head hospital service we note 15,796, of whom 11,526 are females.

Reference to the tables relative to the occupations of foreigners in England and Wales shows that among our physicians, surgeons, and general practitioners, there were in 1881, 3 natives of Austria, 3 of Denmark, 1 of Norway, 2 of Sweden, 7 of Russia, 3 of Poland, 1 of Hungary, 6 of Switzerland, 52 of Germany, 2 of Holland, 22 of France, 2 of Spain, 7 of Italy, 1 of Greece, and 3 of Turkey. Dentists of alien birth number 23, and of midwives there are only 5 recorded. It follows, therefore, that the foreign infusion in the great body of our hygiene workers is very slight. It should be added that the workers in surgical instruments are put down at 1,511, including 330 females. From several other points, especially as to longevity, the returns relative to ages are of deep interest and great importance. Thus it appears that in 1871 out of the total population of 22,712,266; 5,192,766 males and 5,189,687 females were under 20 years. When we come to the age of 40, the numbers are reduced respectively to 590,097 and 639,705; this diminution is, of course, accentuated throughout all the subsequent periods of 5 years each until at the proverbial three score and ten, they are found to be 149,887 and 174,086. At 90 years of age there are recorded 2,383 males and 4,338 females; and finally, at the maximum 100 years and upwards, there are 41 males and 119 females so set down. In 1881, the total population being 25,974,439, the number under 20 of males, 1,112,354; of females, 1,215,872; and at 40 the males muster 672,971, and the females 726,383. Passing to three score and ten, the numbers are respectively 158,333 and 191,622; at 80, they are 41,171 and 54,579; while the total returned as 100 years of age and upwards are 141. This against 160 centenarians with the much smaller population of the previous period is somewhat surprising. It is noticeable that of the alleged centenarians 82 belong to urban and only 59 to rural districts. I fear, however, that the tables relative to the ages of the people in those sections past the age of 40 or so, are really, as a whole, untrustworthy; and, for one thing, the statements under the figures 90, 95, and 100 and upwards have little or no scientific value. The entries are virtually unchecked, and doubtless many of those made for the very old are unknowingly exaggerated.

An important series of tables relate to the blind. In 1871, the total number thus afflicted was put at 21,590, of whom only 1,968 were blind from birth. In the returns for 1881, the number is 22,832, including 10,784 females. Of the total, 1,958 were blind from birth. The deaf and dumb numbered 13,295 (including 6,184 females), against 11,518, including 5,256 females in 1871; idiots or imbeciles are put down as 32,717 (including 16,612 females), against 29,452 in 1871; and lunatics, 51,786 (including 28,102 females), contrast with only 39,567 in 1871. I could dwell longer on these suggestive details, and there is, indeed, in these copious and highly elaborated returns rich material for the scientific student of sociology; but I have gleaned enough from a very hasty review of Vol. III. of the late Census to demonstrate the sterling value of these latest fact-contributions to the true knowledge of the condition of the people of England and Wales.

Daylight in Offices.—Chappuis' Reflectors, 69, Fleet-street, E.C. —[Advt.]

## SOME COMMONPLACE ERRORS.

### A WORD FOR SCHOOL-GIRLS.

By B. Dill.

At the present day, when all the world seems to have run mad after learning, or what passes muster for learning among certain people, there are too many who forget that, in storing the mind and building up the intellect, the bodily frame, which is the dwelling-place of these, must not be allowed to run to decay. Never before, perhaps, has the saying, "There is no royal road to learning," seemed so opposed to fact as at the present time. Now-a-days, children are lured forward on the steep and thorny path by tempting pictures, and games, and object-lessons. The reading-books, which a few years ago displayed only barren stretches of uninteresting prose, or scraps of jingling poetry, are now made pleasant to the eye with dainty illustrations and attractive stories. And yet, perhaps, at no other time have we heard so much of overworked brains, weakened eyes, and worn-out bodies. From every part of the country the cry comes at intervals, "Why should our school-children be so heavily tasked? What good does it do?" And while no one would venture to say that learning should not be made as wide-spread and as attractive as possible, we cannot but raise our voice to remind parents and guardians that, after all, a healthy body must be joined to a well-stored mind in order that knowledge may prove to be power.

Beginning at the very first, among the little ones who trot off daily to school, are there not many who do not receive the injunction to remove their scarves and warm wraps while in their class-rooms, and who, in consequence, are liable to catch cold on coming out into the damp or chilly air. And in too many homes, on their return, the first question asked is, "What is your place in the class?" not always followed by the equally important one, "Are your feet wet? If so, change your boots."

These are trifles, you say. Well, they may appear so; but can anything be a trifle which has to do with the health of the young, upon which so much depends in after-life? Careful training in mind and intellect is of the utmost importance, but should certainly not be the *sole* care of those who have the charge of children.

Especially to those who have the charge of motherless girls would we say a few words on the subject of general health. Perhaps only those who have experienced it can guess how such girls suffer from a strange dislike to "make a fuss," or perhaps the notion that they will not be understood; and so things that would be patent to a mother's eye, and, perhaps, told to a mother's ear, are made light of, and in many cases passed over altogether. It is surprising to find how many girls of the rising generation suffer from backache and general debility. Whether the race is deteriorating, as our grandmothers would have us believe, it does not come within our province to discuss; but there can be little doubt that want of careful training must, in a great measure, be blamed for much suffering.

Delicate girls are allowed to pore over books of small

Scott's Midlothian Oat-Flour.—Messrs. Scott, of 82, York-street, Glasgow, have prepared a singularly pure and nutritious "Oat-flour," which bids fair to take high rank among the food products which are specially adapted for infants and invalids, and for the use of dyspeptics in particular, whose digestion is weak, and whose stomachs refuse to assimilate foods of ordinary kind.—Ed. Health.—[Advt.]

Sanitary Inspections.—Fee for Survey and Report, in London, 2 Guineas. Estimate given and Improvement Works carried out when required.—The Sanitary Engineering Co., 115, Victoria-street, Westminster, S.W.—[Advt.]

print until their eyes are dazzled and their brains benumbed. They are often compelled to sit upon forms without any support, bending forwards to write or read for hours together, until their backs are stiff and their heads ache. Only the very strong can stand it, and even in their case sometimes nature takes her revenge and refuses any longer to be outraged.

Not long ago a physician, examining a school of between twenty and thirty girls, found among that number only *one* whose spine was perfectly straight, and whose figure had grown without deformity of any kind. Surely this was never meant to be! In many, of course, the deformity is so slight as hardly to be noticed; but if children are born straight and well made, it must indeed be worse than careless to let them grow crooked through mere neglect or ignorance.

In most private school-rooms happily, there is a reclining-board, on which the pupils may lie when they feel tired of sitting up. Lounging, however, should never be allowed. Let the pupils stand and sit at intervals; change of position often gives ease, and thus sharpens the intellect which would otherwise become tired and dull. We would also recommend that young people should be permitted to *relax* both minds and bodies, for ten minutes, say every two hours. The time will not be lost if it helps them to return to their work with renewed vigour. In the case of daily scholars who return home in the afternoon, they should be encouraged to take healthy exercise (such as walking, rowing, tennis, &c., and gymnastic exercises, or even dancing, when these are not to be had) for an hour or two before they turn to the preparation of the next day's lessons. Even in these they should not be permitted to tire themselves, but a kind and careful supervision be kept over the young people, without giving them the hampered feeling of being watched. It would hardly be kind to press a girl, who is already tired out with the day's work, to exert herself, by rule, in games, &c., when a little judgment will show that she would feel far more refreshed by being advised to lie on her back for an hour on the sofa, to rest both body and mind. It is perhaps a matter of regret that things are so arranged as to render it necessary to fill the mind while the body is growing, but it only makes it more urgent that the one should not be neglected for the sake of the other.

In these days of competitive examination, when nothing can be had but through this medium, it would be foolish as well as useless to say, "It is unwise to encourage such things," but every one may be warned of the danger of over-taxing both mind and body, and thus for ever destroying the chances they are meant most to advance. Many of us must have instances in our minds of young people who have suffered from the effects of such a strain. But one example may not be out of place. A young girl who had the prospect of making her way in the world, resolved to pass the highest examinations at one of our great seats of learning. With the thought of the benefit which would accrue therefrom, she studied day after day, often taking from the night some of the hours which should have been spent in sleep. She was strong and well at first; no one warned her of danger, and she herself never thought of it. But when the examinations were over, feeling strangely tired, she asked leave to remain in bed for a day or two, "to get thoroughly rested," she said. Permission was readily given, but she never felt *rested* enough to rise again, and before the news that she had *passed* successfully could reach her, she died—worn out. This is, perhaps, an exceptional case; let us hope, at least, it is a rare one; but surely, if by proper attention to the laws of health and the demands of nature even one bright young life may be spared, the matter is worth thinking of, and cannot be too gravely discussed.

It is rather to be regretted that no one has hit upon the idea (now, when female colleges are the fashion) of opening a school for training women in the duties of mothers. Too many young girls at the present day marry early, without much thought of the responsibilities they incur. A vast number of them are too selfish to think of their children's health and happiness before their own pleasure. They love them, certainly, and wish to see them grow up well-educated and well-behaved; but they have so little idea of what is meant by *training* children, that many of the latter might just as well be without mothers. True, there are some beautiful exceptions, where the remembrance of a mother's wise and loving guardianship follows her children to their lives' end, and in the words of the wise writer, they "rise up and call her blessed." But those who observe such things must acknowledge that the spirit of the age is rather to ignore the sacred ties which bind mothers to their children and which induce children to honour their mothers before all the rest of the world.

Before closing, we would say a few words on the importance which should be placed on the fact that growing children and young people require more sleep than their elders; and should be compelled to keep regular hours for retiring to bed and getting up in the morning. Some constitutions require more sleep than others. But up to the age of sixteen, no young person should be out of bed after ten o'clock. Every one knows the saying that the "beauty-sleep" is that which comes before midnight. If seven o'clock is the hour for rising, the young people should retire at nine, or half-past nine; the very little ones, of course, being carried off not later than seven. We do not greatly advocate the practice of doing much exercise, either in the way of brain-work or bodily exertion *before* breakfast. The theory that it gives an appetite, is in all cases a mistake. In girls, especially, it rather engenders faintness and a dislike to eat the food when it comes. If early-rising is the fashion in a household, things should be so arranged that breakfast should also be served at an early hour. When this would inconvenience the other members of the family, the early-risers might have a cup of coffee or a glass of milk, and a slice of bread and butter before going to work; better still a plate of porridge and milk, which would support them at the time, and yet nor interfere with a substantial breakfast at a later hour. For certainly we gain an appetite while sleeping, and in every healthy person the body is already in a condition to be replenished by food as soon as possible after waking. Then let the fresh morning air be enjoyed, and there is no doubt that the benefit will be great.

Finally, let us remember that as a fair garden may become over-run and choked with weeds until it resembles a desolate wilderness, so the small seeds of carelessness and folly growing up may destroy the fragrant but delicate flower of health; until the human body, which is distinctly meant to be a "thing of beauty," shall gradually become an abode of pain and weariness to the miserable spirit that is compelled to dwell therein.

Pownceby's Pure Wines and Brandies, as analysed, and especially selected to suit medicinal purposes, may be obtained in small quantities at wholesale prices. Free delivery within fifty miles. Circular and price current by post from Pownceby & Co., Wine and Brandy Importers, 183, Oxford-street London, W.—[Advt.]

Pure Water is such a vital necessity that, without it, illness is certain. None are more prone to the ill effects when impure than the young. To ensure a pure supply send a post-card to the London and General Water Purifying Company, Limited, 157, Strand, London, W.C., who will return particulars post free.—[Advt.]

# Personal Health

"Be timely wise;
With health all taste of pleasure flies."—*Gay.*

## THE MORNING BATH.

By William White, F.S.A.

The necessity for the daily bath, and the mode of taking it, has been often discussed in the pages of Health. A little personal experience may be of still further service to those who, like myself, have but limited means of supplying the water for a number of daily baths. The great majority of persons cannot have more than a common hip- or sponge-bath; and in a large family the supply of water, in carrying and emptying, becomes a serious consideration. The mode which I have now for some years adopted can hardly be excelled. It is briefly explained in my little "Knapsack Handbook" (E. Stanford, Charing-cross).

Much is made, and very rightly so, of the value of the "cold" bath, for summer and winter, for those who can well endure it. For many years, I diligently and conscientiously satisfied myself that I could well endure it; and, till its use was summarily forbidden, I did endure it, in spite of blanched finger-ends, tinged with blue, and other signs of defective circulation. I am now able to continue it, however, winter and summer, without any of its ill effects, simply by the mode of operation. First soap and wash and sponge yourself with hot water, and then sluice yourself with the cold. In neither case ought the water to be put out into the bath, but into a basin beside it. Thus the whole of the water taken up by the sponge, which should not be over-large, is fresh and clean, and hot or cold as the case may be—instead of its becoming merely tepid by repeated use from the bath. The most is made of every drop of the water, and a small quantity, with discretion, can be made much more available than a larger quantity for the purposes required; and the hot and the cold can be freely used into the one bath without the least difficulty. Thorough drying with a coarse towel will give the needful amount of friction, after which a good rub with a square of flannel completes the process.

During a walking excursion, a similar bath, on coming in at the end of the day's work, is a luxury and a benefit which only those who have experienced it can truly appreciate. Before coming off a glacier I did once take a "dip" in the clear stream running through its white crystal channel of ice. But, although on that occasion I was much refreshed by it, and suffered no ill effects, it was an experiment which would not bear too often repeating. On another occasion I suffered severely from taking only a tepid bath after a long walk, without first charging my system with the requisite amount of caloric, which the preparatory hot water imparts.

Whilst living in London, the greater discoloration of the hot water, in its use, is quite enough to explain, and to justify, this mode of applying it, to say nothing of the invigoration of the process. Those who are blessed with a very free circulation may, perhaps, "well endure" the cold water alone. But experience and observation alike show that error may lurk undetected in its unmitigated use.

After a walk, before getting cool, I often take a dip in a stream or cold bath, and can do so with pleasure and with impunity; but I maintain that a little hot water first is safer, and commonly more invigorating.

## DANGERS FROM FLIES.

"E. P. W.," in a communication to *Nature*, says:—"In a note communicated to the *Gazzetta degli Ospitali* for August, 1883, and republished in the current number of the *Archives Italiennes de Biologie* (tome iv. fasc. ii.), Dr. B. Grassi calls attention to the fact that flies are winged agents in the diffusion of infectious maladies, epidemics, and even parasitic diseases. During the summer season, when flies occur in swarms, it seems impossible to prevent them from settling on any and every object. In these countries, though sometimes troublesome, they are scarcely ever so numerous as in the warmer climates of the Continent, and even in these latter they are not often to be found such plagues as they are in Egypt; but in all these countries alike they may be seen to alight on all moist substances without distinction. It may be the expectorations of a consumptive or the ejecta of a typhoid patient that have last attracted the inquiring flies; but, irrespective of the material they may have been investigating, their next visit may be to the moist lips or eyes of a human being. Their feet, their mouth, and the chest portion of their bodies will have all come in contact with the infective mass, and will all in turn be more or less cleansed of it by the moisture of the freshly-visited mucous membranes. But this danger has already been known and recognised, and it seems scarcely doubtful that in Egypt ophthalmia (or eye-inflammation) is constantly carried to the eyes of the infant natives by such winged visitors.

"Dr. Grassi calls our attention to even greater danger, and this from the ejecta or excretions of the flies themselves. Every housekeeper knows how the bright surface of a mirror or the gilt moulding of a picture-frame can be covered over with the little flects left by these flies,—no English words occur to us to translate therewith the phrase 'les méfaits des mouches.' The following experiences of Dr. Grassi relate to these:—At Rovellasca, between his laboratory, which is on a first floor, and his kitchen, which is on the ground-floor, there lies a courtyard, with a distance between the windows of the two rooms of about ten mètres (equal to about 33 feet). On a plate on the table of his laboratory he placed a large number of the eggs of a human parasite (Trichocephalus). After a few hours, he found, on some white sheets of paper hanging in the kitchen, the well-known spots produced by the excreta of the flies, and, on a microscopical examination of these spots, several eggs of the parasite were found in them. Some flies coming into the kitchen were now caught, and their digestive system was found quite filled with an enormous mass of matter, in which the presence of eggs of Trichocephali were detected. As it was practically impossible to keep all alimentary substances from contact with these flies, it follows that the chances of Dr. Grassi and his family being infected with Tricocephali were very great. As a matter of fact, the experiment was tried with undeveloped eggs of this worm.

Medical and Sanitary Exhibition, 1881.—Award of Merit.—Diabetes. Van Abbott's Gluten Bread, and all other suitable Foods for Diabetic Patients. Dietary Tables and Price Lists post-free on application. Van Abbott, 5, Princes-street, Cavendish-square, W.—Delicate Children and Adults Suffering from Nervous Depression. Van Abbott's Hypophosphite of Lime Biscuits, for Delicate Children, especially those suffering from Deficiency of Bone, Weak Joints, or Debility, and Adults suffering from Nervous Depression. Each Biscuit contains five grains of the Hypophosphite of Lime. "Quite free from disagreeable taste, and taken willingly by Children, and certainly provide an excellent means of administering this valuable compound. Our analysis proves the accuracy of the printed descriptions on the labels of the boxes. The Biscuits were suggested by Mr. W. Adams, of the Orthopædic and Great Northern Hospitals." — *Lancet*, Nov. 4, 1876.—Van Abbott, 5, Princes-street, Cavendish-square.—[Advt.]

"Another experiment was in the same direction. Dr. Grassi took the ripe segments of a *Tænia solium*, or common tapeworm (which had been in spirits of wine), and broke them up in water, so that a great number of the tapeworm's eggs remained suspended in the fluid. The flies came to the mixture, attracted by the sugar, and in about half an hour the ova of the tapeworms were to be found in their intestines and in the spots. Had these eggs been in a recent and living state, they would doubtless have been just as easily transported. To those who care to try these experiments, it is suggested that lycopod (or club-moss) powder mixed with sugar and water is a good material, as lycopod spores (or germs), are easily detected.

"It is self-evident that if the mouth-apparatus of the fly will admit of the introduction of such objects as have been above noted, that there will be no difficulty in its admitting scores of the spores of many parasitic fungi, and above all of those belonging to the Schizomycetes, the possible cause of so much disease. Already has Dr. Grassi detected in fly excrement the spores of *Oidium lactis*, and the spores of a Botrytis, this latter taken from the bodies of silkworms dead of *muscardine*.

"There arises, of course, the question of how far the active digestion in the intestines of the flies may not destroy the vitality of germs or spores thus taken in, but it would seem probable that in many instances the larger bodies swallowed may not serve as objects for assimilation, but may be got rid of as foreign bodies: and it will be borne in mind that the flies themselves fall victims to the growth of a parasitic fungus (*Empusa muscæ*, Cohn), which is probably taken first into their own stomachs.

"Dr. Grassi promises to publish the results of his experiments in fuller detail. Judging of their interest by this abstract, they will well deserve to be followed up, and though in these countries our modern sanitary arrangements do not tend to the development of such immense swarms of flies as are so constantly to be met with in Italy, still the dangers to be apprehended from them there are possibly, though in a less degree, to be encountered here, and the investigation of the fact is easy to any one possessing a fairly average microscope and the power of catching a fly."

---

It is recommended by Dr. Tyson, of Philadelphia, to add molasses to mustard in making the mustard plaster, which, he says, furnishes a mild, persistent, counter-irritant, that can be kept on for hours.

Nettle-rash, or Urticaria.—This is a nervous affection of the skin in which blotches resembling those of the nettle-sting appear upon the surface, accompanied by itching and burning sensations. Disturbance of digestion is the usual cause. For immediate relief, bathe the parts with a solution of soda or saleratus, a teaspoonful to the pint of hot water. Simple sponging with hot water, or hot salt and water, a tablespoonful to the quart, is in some cases still more effective. The exciting cause must be removed to effect a permanent cure.

Glass Floors.—There has recently been developed in Paris an idea for the use of glass, instead of boards, as flooring. The whole of the ground-floor of the head-quarters of the Crédit Lyonnais, on the Boulevard des Italiens, has been paved with large squares of glass, about 18 in. square by 1½ in. thick, embedded in iron framework, and a similar floor has been laid in the centre hall of the offices of the Comptoir d'Escompte. The glass is of a bluish tinge, but this is said to be agreeable, rather than otherwise, to the clerks who work beneath it, and who can transact their business, even on dull days, without the aid of gas.

# The Family Circle

"The child is father of the man."—*Wordsworth.*
"In bringing up a child, think of its old age."—*Joubert.*

## ECONOMICAL BREAKFASTS, DINNERS, AND SUPPERS.

By Mrs. Thwaites, of Liverpool.

FIFTH PAPER.

Breakfasts.—Before treating of the countless breakfast dishes that can be made from vegetables, eggs, fish, and meat, it will be well to touch upon what is, perhaps, the most important article of our whole dietary—bread. It holds pretty nearly the same position in all civilised countries. Seeing that it is eaten by everybody, but in much greater quantities by the young than the old, it becomes a matter of vital interest that it should be as good as it is possible to make it. Wherever practicable, bread should be made at home. There is no process in the whole range of cookery more interesting than this, and none where intelligent and scientific knowledge will be more advantageous. When bread is made at home, individual tastes can be suited and purity of material guaranteed, to say nothing of the greater degree of cleanliness insured.

To be digestible bread must be light—that is, porous and spongy; nothing tries the digestive organs more than heavy bread. This lightness is usually obtained by fermentation, for which yeast is used. It matters little whether it be brewers' or what is known as German yeast. In towns, the latter is used to the almost entire exclusion of the former. The proportion of good fresh yeast will be about as follows:—3 lb. flour require 1 oz., 7 lb. 1½ oz., 14 lb. 2 oz.

Yeast is a collection of very minute fungoid plants which grow rapidly under favourable conditions; but it must be distinctly understood that any deviation from these conditions kills the plants, and consequently spoils the bread that is being made. The following directions will always insure success, even to the veriest novice:—

Crumble the yeast lightly into a basin or cup; add a teaspoonful of flour and the same of sugar, then mix slightly with a ¼ pint of lukewarm water; set in a moderately warm place for about ten minutes. Meanwhile, prepare the flour, putting it into a large earthenware pan, and allowing 1 teaspoonful of salt to every pound of flour; the salt must be fine, and requires well mixing with the flour which, in cold weather, should be allowed to stand a few hours in a warm kitchen. A large jug of lukewarm water (about 60° Fahr.) should be at hand. As flour varies considerably in quality, it is impossible to state exactly the quantity of water required, a pint or a little less to 1½ lb. being something like a usual proportion. By this time, a change will be noticed in the appearance of the yeast; it will be covered with innumerable small air bubbles, and will have risen high in the basin. Make a hole in the middle of the flour, pour in the yeast, add a portion of the water, and then stir with a large wooden spoon; continue to add water until all the flour is soaked. Sprinkle well with dry flour and knead until the dough is smooth and elastic; on being pressed down with the finger it should come up again quickly. Leave it to rise for 2½ hours, where it will be moderately warm and not exposed to draughts; it should rise to about three times its original size. Turn it out on a floured board, divide into portions of the desired size, knead each one

lightly, put into greased tins, set before the fire for ten minutes, and then put into a hot oven; in about twenty minutes the heat may be reduced. A 2 lb. loaf will take three-quarters of an hour; when taken from the oven the loaves should be turned out on a sieve, or set on edge until cold; this is to prevent the bread being spoiled by the condensation of the steam.

The temperature throughout is of the highest importance. If it rises above about 80° Fahr., the yeast plant is killed and the bread would be entirely spoiled; if, on the other hand, it sinks below 45°, it is rendered torpid and the whole work is very much retarded. Sugar in solution, to a small extent, is necessary, and although a very small quantity is present in all yeast, it is much safer in the making of bread to add a little. The question of fermented versus unfermented bread has often been raised, but the use of the fermented kind does not appear to have been affected thereby. Provided that good materials are used, and the fermentation be not carried on too far, it is not likely that fermented bread will ever be displaced by that which is unfermented.

Pleasant changes may be made by substituting brown flour for white, adding Indian corn meal, rye flour, and so on. The best brown flour for general use is that known as decorticated whole meal; it is very strongly recommended by the Bread Reform League. Other kinds are often irritating, and cannot be given in the form of bread to young children, a very little causing diarrhœa, while that made from the decorticated wheat may be eaten with perfect safety by quite young children. In making brown bread, a few slight differences must be observed. It is always well to add to the flour a little fat—½ oz. butter or lard to the pound of flour—rubbing it well in, and a little larger proportion of yeast; it is well also to allow the dough to be a little softer than in ordinary white bread. When made at home, it is best to make small loaves, which should be very thoroughly baked.

For Indian corn bread, take one-third of Indian meal and two-thirds of wheaten flour; the meal must be put into a good sized bowl and be scalded; that is, as much milk or water actually boiling must be poured over as it will take up, it must be vigorously stirred, and when slightly cooled the flour must be mixed into it; a little larger proportion of salt will be required for this; the way of mixing in the yeast and letting it rise will be exactly the same as before.

Rye or barley meal may be mixed in equal quantities with flour, and made into bread as above. The last two kinds should be made up into little cobs and baked on the oven shelf.

Dinner.—*Baked Fish.*—Baking is an economical mode of cooking; nothing is lost, as in boiling, and great variety of seasoning can be employed, which gives change. Grease a tin well with butter, make a mixture of crumbs, chopped parsley, salt, pepper, and a very small quantity of sweet herbs; spread a portion of this over the tin, then the fish, which may be any kind that is plentiful. *Flat* fish should have the dark skin removed, the head and tail cut off; larger fish, like cod, should be cut in slices an inch thick; haddock or mackerel should be split open, and have the backbone removed; it must be thoroughly, but *quickly*, washed in cold water, and after that dried. A layer of the seasoning mixture must be spread over the top of the fish, a little water or fish-stock poured over, and finally a few little bits of butter put on. Set into a moderate oven, time from half to three-quarters of an hour, the juice of half a lemon or a little vinegar added to the gravy when the fish is taken up will be a great improvement. Serve with plainly-boiled potatoes.

*Queensland Pudding.*—Grate three potatoes and a good-sized red carrot, add a pinch of salt, 3 oz. of finely-chopped suet, 4 oz. of brown sugar, and one egg; beat all well together, grease a pudding-mould, and a piece of kitchen paper large enough to cover the top of the mould; now mix 6 oz. flour thoroughly with a good teaspoonful of baking-powder, stir it quickly into the mixture and put at once into the mould, cover with paper and set into a pan of boiling water. The water should reach about half-way up the mould, and will need renewing occasionally. Time to boil, 2½ hours. Stoned raisins may be put into this pudding, if liked; serve with plain melted-butter.

Supper.—*Cheese Toast.*—1 slice of stale bread toasted; put into a small pan ½ oz. butter and ½ oz. flour, stir together over a gentle heat; add ¼ pint of milk, and continue to stir until it boils; take it off the fire, and season with pepper and a small pinch each of cayenne and nutmeg; salt at discretion, as the saltness of cheese varies. Stir 2 oz. of grated cheese in, heat thoroughly, and spread on the toast. The appearance of the dish will be much improved if it can be quickly browned, as under a reflected gas jet. A great many people like cheese, but find it indigestible. If this dish is carefully prepared it should not disagree with any one.

---

The temperature at which fat becomes hard is a fairly trustworthy guide to its digestibility. Thus beef and mutton suet go hard soon; bacon-dripping is still soft when these are quite hard. The digestibility of the fluid fat of bacon is well known. Butter, too, is soft in cold weather, only the caseine remaining in it makes it hard. The best cod-liver oils are all frozen to a low temperature to remove all stearine and palmitine; and so are still more easily digestible than oils not so treated.

The Americans have discovered a mode of aging wine by electricity. A company undertakes the ripening and purifying of wine and other alcoholic liquors by means of an electric current. It has for a long time been possible to disguise the fusel oil in new wine and other liquors by ingenious flavouring, but the electric process, if we are to believe the inventor, completely eliminates all the essential oils, and renders the liquor not merely as agreeable to the palate, but also as wholesome as if it had been kept for years. Light clarets are "aged" in from three to six hours, and brandy in sixty.

Recipes for Barley Water.—Having first washed two ounces of pearl barley, put it into a saucepan with two quarts of water. Boil for two hours or more until the barley is quite soft, stirring and skimming occasionally, Strain through muslin and sweeten to taste. If allowable, a little lemon-juice may be added, which makes it to most patients a more agreeable drink. Another recipe is:—Wash two ounces of fine pearl barley, boil it for five minutes in a pint of water, strain, put the barley into a jug, pour over it a quart of boiling water, cover it close with a cloth, let it stand until cold, then stir it up, strain, and keep ready for use.

Dr. Nichols' Penny Vegetarian Cookery-Book.—Every household should possess this marvel of cheapness. Free for 1½d.—Nichols & Co., 23, Oxford-street, London, W.—[Advt.]

The "Boncontour" Stay-Belt and other Orthopædic Apparatus, made by K. R. Schramm, Orthopædic Mechanician, 64, Belmont-street, Chalk Farm-road, London, N.W.—[Advt.]

Scott's Midlothian Oat-Flour.—There is no preparation which can be assimilated with greater facility than such a flour as this. Those who suffer from indigestion might substitute for their ordinary breakfast materials this flour, prepared according to the recipe given by Messrs. Scott and printed on the tins.—Ed. Health.—[Advt.]

# Recreation and Health

"Health is the vital principle of bliss,
And Exercise of health."—*Thomson.*

## CALISTHENICS, OR LESSONS IN PHYSICAL EDUCATION.

By H. C. Standage.

EIGHTH PAPER.—WAND AND RING EXERCISES—(*Continued*).

"Now, the object of the lessons I have already given, and those immediately to follow, are devised for the express purpose of strengthening and expanding to its normal proportions the chest of each one of you."

"Do not think me stupid, but I daresay Maud and Ethel, as well as myself, would like to know all the benefits we are to derive from this increased lung-power and normally-developed chest."

"Certainly, Anne. I'm glad you ask that question, for it shows that my speech has not been mere words to you. In the first place, by having the lungs developed to the full extent, they are able to deaërate a greater quantity of the breath inhaled, and, as a consequence, the blood is rendered purer than when only a small quantity of inspired air is deaërated. In the second place, you are able to endure a greater amount of fatigue—as running, swimming, or even going up and down stairs—without feeling exhausted or your breath coming short and quick. One of the results of exercise is that you breathe regularly and in a normal manner without getting flurried or 'losing breath,' should you suddenly take to running—as in escaping from a sudden shower of rain, &c.—or any other unexpected exertion. In the third place, by having lungs fully developed, in a perfectly healthy condition, and the blood pure thereby, you are less liable to take, and better able to throw off, disease. Moreover, æsthetically you are beautiful in the outline of your chest, because it is naturally developed. An undeveloped person, if not ugly, is certainly not beautiful."

"How is it, Charles, exercise produces a developed chest? Why, if by standing upright and simply breathing fully into my chest, I can inflate it thoroughly and throw it forward, why do I need exercise to do the same thing?"

"For this reason: The more you breathe into your chest, the more developed it becomes, and the effect of continued exercise is to finally fix the bones and cartilages in the position they should normally occupy. If you sit still you inhale only a small quantity of air, and expelling less, there is a residuum left in the lungs that, if not now and again expelled by a deep breath or exercise or exertion of some kind, becomes stagnant and impure. Now, after taking in a long, deep breath and puffing out your chest, you notice that the bones sink back again; whereas the effect of systematic exercise like that I am putting you through is to permanently retain the bones of the thorax in the position that will give the greatest space for the lungs. At the same time, by performing exercise the breath comes quicker than when you are simply standing still, and as a result the blood becomes purified by this increased circulation, and, lastly, by graduated exercise the mechanism of the heart is regulated to bear the shock of sudden activity or momentary cessation of activity without its being thrown out of gear—if I may borrow a term from mechanics."

"Thank you, Charles. Shall we resume our exercises now?"

"If you please. There are a few more with the wand and one or two with the rings, I should like to put you through in this lesson."

Exercise 7.—"To make right and left limbs perfect, I will ask you to repeat the previous movements, holding the wand in the left hand, and stepping forward with the left leg. This movement of stepping out or "charging" will enable you to perfect your balance and give freedom to the hips.

Exercise 8.—"Hold the wand as far in front of you as you can with the right hand, left hand on the hip; step out to the wand with the right leg, then back to the first position; and lastly take a step backward with the right leg, keeping the wand on the same spot. Repeat these movements six times, and then do them with the left foot.

Exercise 9.—"The last exercise I shall give you with the wand is one that will give you still greater freedom of movement of the joints of the lower limbs.

"Hold the wand forward in front with both hands, step up to it with the right foot, and then take a step backwards with the left leg. While in this position, at a single jump, change the position of the feet, so that the left one is near the wand and the right foot carried behind. Reverse the position of the feet half-a-dozen times successively. As a variation to this exercise, hold out a wand in each hand, so that they are in line with the body—that is, the wand in the right hand pointing to the right and the left one to the left—and repeat the former movement with the legs while the arms are thus extended."

The special instrument needed for this exercise is a ring of wood, one inch thick and six inches in diameter. This ring is grasped by two persons.

Exercise 10.—"Now, girls, I want you to pair yourselves according to height, and each pair take two rings. You see I have provided myself with them. Now you are paired off, each pair face each other, your right feet touching at the toes, the left leg carried fourteen inches to the rear and ten inches to the left front; the toe of this foot points to the left, while that of the right foot points to the front. With the left hand on the hip, take one ring and both grasp it by the right hand. Now commence alternately pulling and pushing each other. Don't shift the feet off the ground, but let all movements of the body, as you are dragged forward and pushed backward, be made on the hip joints and knees. Alternately push and pull six times, then swing the ring in a semicircle from side to side, raising the arm as high as possible, and not bending the elbow. Repeat these movements with the left feet to the front, and the ring in the left hands.

Exercise 11. "Next take a ring in each hand, the feet as before, one pointing to the front, and the other carried off to the side; then alternately push and pull; likewise raise one arm and lower the other to their full extent; then swing them in a semicircle from side to side; next raise one arm and depress the other, both of you pushing against each other. In this movement the ring will form the apex of a triangle, the arms forming the sides. You notice that in this exercise with two rings that the right arm is opposed to the left of each performer. There are many other movements to be done with these rings which I need not specify now; but I have taught you the above so as to render your shoulder-joints supple and firm, to strengthen the muscles of the waist, and to render you free, easy, and graceful in moving the upper part of your body—commonly known as the trunk—without at the same time moving the lower limbs. In the next lesson I shall give you exercises that will strengthen the muscles of the arms and back by stating directions for the use of the dumb-bells."

(*To be continued.*)

# Jottings from the Journals

"Th' ingredients of health and long life are
Great temperance, open air,
Easy labour, little care."—*Sir Philip Sidney.*

**Injurious Effects of Baking-Powders.**—A writer in the *Journal of the American Medical Association* avers that there is no doubt that baking-powders, even the best of them, are damaging to health. He says:—"To make the matter clear, it may be stated that the average baking-powder is composed of bicarbonate of soda, cream tartar, and starch, with a possible admixture of other things. The continued use of even this purest baking-powder will affect the system seriously, commencing with only a slight derangement of the digestive organs, which gradually becomes chronic, changing the secretions of the stomach necessary for digestion (muriatic acid); in fact, altering the whole chemistry of the human stomach. The continued use of alkalies in any form injures the health. Look at the alkali country west of us, where the alkali is found in the *drinking water*. The same dangers will arise from the persistent alkaline medication of our *daily bread*. The various forms of dyspepsia, bladder troubles, Bright's disease, consumption—the newest researches speak about a wrong proportion of the alkalies in this disease—are only too often caused by this modern substitute for the old, time-honoured, common-sense practice of using yeast."

**How to Select Flour.**—In selecting flour, first look to the colour. If it is white with a yellowish straw-colour tint, buy it. If it is white with a bluish cast or with black specks in it, refuse it. Next examine its adhesiveness—wet and knead a little of it between your fingers; if it works soft and slicky it is poor. Then throw a little lump of dried flour against a smooth surface: if it falls like powder, it is bad. Lastly, squeeze some of the flour tightly in your hand; if it retains the shape given by the pressure, that, too, is a bad sign. It is easy to buy flour that will stand all these tests. These modes are given by all old flour dealers, and they pertain to a matter that concerns everybody.

**New Milk.**—The *Confectioners' Journal* says that an aqueous solution of glucose has come into use as a new adulterant of milk. It retains the density of the watered milk and imparts sweetness; the cow is allowed to swish her tail through it a few times to give it the requisite "cowy" flavour, after which it looks like milk, tastes like milk, and is milk; and the corner groceryman is prepared to take his affidavit to go with every quart.

**Morfit's Hair Tonic.**—One half ounce of vinegar of cantharides is mixed with one ounce each of cologne and rose-water; or one half ounce tincture of cantharides is mixed with two ounces of cologne-water, one half drachm oil of nutmeg, and ten drops of oil of lavender. If too strong, dilute with cologne water.—*Weekly Drug News.*

**Sweating Feet.**—M. Vieusse, principal medical officer of the Medical Hospital at Oran, states that excessive sweating of the feet, under whatever form it appears, can be quickly cured by carefully-conducted friction with the subnitrate of bismuth, and even in the few cases where this suppresses the abundant sweating only temporarily, it still removes the severe pain and the fetidity which often accompany the secretion. Dr. Vieusse has never found any ill consequence to follow the suppression of the sweating.

**Heredity in Nervous Diseases.**—Dr. Möbius, of Leipzig, has investigated the genealogies of five families through several generations, in order to obtain some information with regard to the mode of heredity in nervous diseases (*Deutsche Med. Wochensch.*, Nov. 7). He finds, among other things, that drunkenness exerts a most powerful influence on posterity, and that even the apparently healthy members of a nervous family are not normally vigorous and capable of enjoying life. He is of opinion that no one who has once suffered from a severe form of nervous degeneration ought ever to marry.

**New Method of Tooth-Drawing.**—In the *British Medical Journal*, December, 1883, p. 1142, attention is drawn to a new method of tooth-drawing practised by a dentist of Geneva. A small square of india-rubber, pierced with a central hole, is pushed over the tooth till the upper part of the root is reached. The india-rubber gradually contracts, pulls on the root, and the offending tooth is finally enucleated without causing the patient any pain whatever.

**Limbs of Unequal Length.**—A writer in *Nature*, a member of the Royal College of Surgeons, mentions that, of seventy well-authenticated skeletons he examined, the lower limbs were equal in length in only seven instances, the right limb being longer in twenty-five, and the left limb in thirty-eight cases. It is claimed that this will have the effect, where persons walk without knowing the direction from their surroundings, to make their step longer with one limb than the other, and thus travel in a circle, as people so frequently do when they get lost. In most of the skeletons above referred to, the right arm was longer than the left.

**Potato Pancakes** make a most excellent dish for supper. Serve with the same embellishments in the way of pickles, sauces, as you would do were the dish you were offering fried oysters. Grate a dozen medium-sized potatoes, after peeling them and washing thoroughly. Add the yolks of three eggs, a heaping tablespoonful of flour, and if they seem too dry a little milk will do to thin them, with a large teaspoonful of salt, and lastly the whites of the three eggs beaten stiff, and thoroughly beaten in with the potatoes. Heat your griddle and put butter and lard in equal proportions on it, and fry the cakes in it until they are brown. Make them a third larger than the ordinary size of the pancakes.

---

International Health Exhibition, London.—The Exhibition will be opened by the President, his Royal Highness the Prince of Wales, on Thursday, May 8, at 3 p.m.

Plant Therapeutics.—M. Villermoz, a celebrated horticulturist, recommends the watering of diseased plants with warm water, after having previously turned up the earth, without touching the roots. The water that escapes from the bottom of the flower-pot is at first clear, but it afterwards becomes lightly brown and yields an acid reaction, to which M. Villermoz attributes the diseased condition of plants, the hot water acting, not only as a stimulant, but possessing the power of eliminating the acid substances with which the soil becomes impregnated. By this treatment M. Villermoz has seen almost completely withered plants restored to life in a short time, and he thinks that the same may be applied to plants in the open air.

The "Spécialité" Lime Juice, for family daily use throughout the year, has not the usual musty flavour; will not turn mouldy; may be obtained of Chemists and Grocers.—Feltoe & Sons, Albemarle-street, London, W.—[Advt.]

# Our Bookshelf

"Reading maketh a full man."—*Bacon.*

*Medical Fashions in the Nineteenth Century, including a Sketch of Bacterio-mania and the Battle of the Bacilli.* By Edward T. Tibbits, M.D. Lond., &c. (London: H. K. Lewis. 1884.)

In the introduction to this brochure Dr. Tibbits confesses that his views regarding the subjects on which he writes "are not, medically speaking, quite orthodox, in fact, they are not fashionable." May we, without fear of being considered disrespectful or frivolous, venture to suggest that the Doctor is a little old-fashioned? Nevertheless, we like neither him nor his book the worse for being so. His views, if not quite orthodox, have a certain amount of charm, and those who are not committed to any particular dogma will readily admit that his arguments in favour of them are forcibly and clearly put. His opinions are stated in two propositions which no one, we think, will venture to dispute. It is when we come to the illustrations in support of these propositions that we find ourselves on debatable ground, and it is here, also, that the Doctor is at variance with much of the current thought, or perhaps we should say "fashions," of the day. The first of these propositions he gives in the following terms:—"Many valuable remedies and methods of treating disease, by reason of their too general and injudicious use, have a tendency to become, and sometimes do become, highly dangerous, or even positively destructive to human life, and are liable to be wholly discarded, or greatly undervalued in consequence."

In support of this statement he instances bleeding, mercury, the system of large doses, its converse or homœopathy, hydropathy, mesmerism, metallo-therapy and massage, alcohol, anæsthetics, chloral, digitalis or foxglove, mineral waters, and health-resorts. The majority of these illustrations are apt and to the point. Others we regard as unfortunate. For example, we doubt if the large dosage system, homœopathy, and metallo-therapy were ever under any circumstances "valuable methods of treating disease." Nowhere in Dr. Tibbits' remarks do we find them regarded as such. They are excellent illustrations of absurdities in medical fashions, but not of valuable methods, discarded or undervalued because of their injudicious use. The large dosage system was much in vogue in the early part of the present century. It sounds somewhat alarming to-day to hear that patients were then expected to swallow about half-a-pound of iron carbonate in twenty-four hours, that three drachms of calomel have been given in one dose, and that, still later in the century, our American brethren have taken, apparently without a murmur of dissent or protest, eighty grains of quinine in a single draught. Such treatment can hardly be recommended as suitable even in specially-selected cases. Giants may have existed in those days, as Dr. Tibbits suggests, but the giants who were able to withstand such gigantic doses must have been few indeed. The system was so absurd that there is small wonder that many disgusted ones rushed to the opposite extreme and adopted the absurd doctrine of Hahnemann, with his decillionth of a third of a drop and *materia medica* of ugly nomenclature.

There are few, if indeed any, physicians of the present day who believe in the two great fundamental principles of the founder of Homœopathy, that like cures like (*similia similibus curantur*), or that medicinal substances are efficacious only after having been reduced to a wonderful degree of minuteness or dilution. It is, indeed, doubtful whether a true homœopath exists. Not a few of the so-called homœopaths are such in name only, in order that they may attract those patients who desire a novelty or something out of the common. The battles around Metallo-Therapy, or the external application of metals in certain nervous diseases, may be regarded as over. The only form of metallo-therapy which the medical profession is likely to believe in, is that in which the patient lines well the physician's palm with some of the current coin of the realm—and it would not be amiss if some patients paid a little attention to the more frequent application of this remedy. Bleeding, which was once so common, has now fallen into almost total disuse. In our own experience we can only remember two instances of patients having been bled from the arm. There is no doubt that this total neglect of a valuable remedy is to be regretted, but it is better that it should not be resuscitated than that it should be abused in the indiscriminate fashion of old.

It is not so very long ago since mercury, more particularly in the form of calomel, like bleeding, was almost universally employed. Such reckless administration of a valuable medicine led to its disuse. Its want has, however, been felt, and it is now once more restored to its proper place in the pharmacopœia, in spite of the substitution of so-called "vegetable mercuries." Let us trust that it will retain its proper place, and continue to be used with the caution which characterises its application at the present day. Hydropathy and mesmerism are now looked upon as fashions of a bygone period; but hydropathy, in its simpler form at least, must always be regarded as a good therapeutic agent in a certain class of cases. The same cannot be said for mesmerism. Alcohol, anæsthetics, and chloral are drugs which, from their very nature, are (and probably will be, so long as human nature is what it is) liable to abuse. It will be an evil day for therapeutics if this abuse should ever (but we can hardly imagine it) lead to their being dropped from the pharmacopœia.

Digitalis or Foxglove is one of those drugs about which there has been and still is much controversy. In the early part of the century it was considered curative of consumption and a specific in lung inflammation. Since the invention of Marey's sphygmograph it has been classed as a stimulant along with alcohol, ether, ammonia, and the like. Not a few of our older and more experienced physicians, and among them Dr. Tibbits, declaim against this arrangement, holding it to be sedative and depressant. Regarding mineral waters and health-resorts, the doctor is a little too severe. He is cruel enough to say, regarding the waters, that "it is highly probable that in the majority of cases a little sulphate of magnesia or soda given at the proper time and in suitable doses would answer as well as the most fashionable medicinal spring in the world." Evidently he has little faith in the therapeutic powers of the imagination. As to the health-resorts, his quarrel is not so much with them as with the fashion which extols the more-recently discovered at the expense of the older and more familiar places. For our own part, we do not object to this laudation of "fresh fields and pastures new." The weak point which deserves criticism is the indiscriminate banishment of all sorts of cases to such resorts as soon as they become fashionable. Davos Platz being the fashion at present, comes off rather hardly at the Doctor's hands. He is much exercised at an advertisement which appears frequently in the medical journals:—"Davos Platz *the* cure for persons suffering from pulmonary disease." We do not wish to make statements rashly, but we have a shrewd guess that such an advertisement never emanated

from the pen of a medical man. We would not be at all surprised to learn that it was inserted by an active and enterprising hotel-keeper in that mountain valley, who has good reason to believe in Davos, it having not only restored health to his lungs, but added riches to his pocket.

Dr. Tibbits' second proposition is "that certain theories connected with etiology, or the causes of disease, have become so fashionable, and the professional mind is so engrossed with them, that there is a tendency not only to check scientific investigation in other directions, but to obscure the actual, and it may be obvious, source of disease." The theories to which the doctor refers are those grouped as the "Germ Theory of Disease." His caustic criticisms of Bacterio-mania and account of the Battle of the Bacilli are rather entertaining. We cannot accept all he says; but when we consider the extravagancies into which some of the followers of the more distinguished upholders of the germ doctrine have been led—when we find a German surgeon declaring in a public print his belief that treatment of a scalp-wound with anything other than carbolic acid, or some such approved antiseptic remedy, should be considered penal—when we hear of hospital surgeons telling their students that, if they are honest men, they will continue to use a troublesome and, as recent experiments tend to prove, even a dangerous spray-engine in the treatment of wounds—when we read that on the Continent "the chance of inhaling tuberculous bacteria has been met by a sanitary spittoon"—when in Germany we find "Cellulose Closetpapier mit Salicylsäure getränkt," and in France, "Feuille hygiénique de la siége des water-closets avant de s'y asseoir garantit de tout contact malsain et dangereux"; when we are told that the ordinary functions of life cannot be performed without a fear of these dread little rascals, "the germs," we do think that the criticisms of Dr. Tibbits are not altogether uncalled for.

It must not be supposed that he questions the existence of bacteria. No one thinks of doing so; but, as he truly points out, their relationship to disease is not as yet settled. We are prepared to go further than the doctor, and admit that the evidence seems to point to a more intimate relationship than he will admit; but as the theory is becoming fashionable, there is no doubt that many are getting beyond established facts and drawing conclusions on which they found modes of treatment that tend to hinder rather than advance medical science. Students of to-day are taught such an elaborate system of wound-treatment, that it is a surprise to many of them to see ugly cuts heal under the application of clean cold water. There are signs of a revulsion. Let us hope that it will not eventually lead into doctrines and practices as absurd (and probably more dangerous) than some of those we have mentioned.

The remaining propositions or statements are three in number. They are simply statements of fact, and so self-evident that the doctor deals with them satisfactorily in short space. They are that many so-called novelties in the medical world, like fashions in other departments, are simply revivals of old remedies or ideas, but it may be more or less in disguise; that remedies tend to be partially or totally neglected because of their abuse (a statement fully dealt with in the first proposition), and that there is undoubtedly in the present day a tendency to the rapid multiplication of remedies, many of them of questionable value. The admission of new remedies to the Pharmacopœia is not always to be regretted. New remedies have sometimes proved of the utmost value, but most men will be inclined to agree with Dr. Tibbits that, "as physicians and surgeons, it is not judicious to be too anxious to change our old therapeutic garments for a new suit, which, although very striking at the first glance, becomes on more careful inspection deceptive, frightful, or even dangerous."

# International Health Exhibition.

LONDON, 1884.

SEVENTH PAPER.

## MEMORANDA FOR THE GUIDANCE OF EXHIBITORS,

Drawn up by the Sub-Committees and approved by the Executive Council.

### Water Supply and Sanitation of the Dwelling-house.

This Committee deal with the following Classes of Group 3:—21, 22, 23, and 27; the official classification is given on page 12.

With a view of bringing before the public examples not only of thoroughly good sanitary arrangements, but also of the defects existing in ordinary houses, the Committee have, with the sanction of the Executive Council, undertaken to supervise the erection of two model dwellings in the grounds of the Exhibition, one of which will show, as far as can be done on the limited scale, a house with good sanitary arrangements, while the other will show the usual defects. In the latter case, no attempt will be made to exaggerate the ordinary conditions; but the object will be to reproduce accurately a state of things unfortunately but too common.

In erecting and fitting these typical houses, the Committee will have to rely on the assistance of manufacturers; but they wish it most distinctly to be understood that while they must of necessity adopt, for purposes of illustration, fittings made by particular manufacturers, they do not in any case recommend these special fittings for adoption, or wish to give the idea that the special fittings adopted are superior to those produced by other makers. In many cases it is quite certain that there are several appliances all equally good, but the space at the disposal of the Committee will not permit examples of all these appliances to be shown.

Besides these typical illustrations, the Committee will be glad to receive from manufacturers whatever examples they may think proper to submit for exhibition of the articles indicated by the classification. It is to be borne in mind that in all cases the exhibits must have a distinct bearing upon health, and that architecture or building construction generally is outside the scope of the Exhibition.

The exigencies of space will not permit the Executive of the Exhibition to invite contributions illustrative of schemes for drainage, water-supply, &c., applicable to towns or large districts, and it is therefore to be understood that the exhibits must be confined to domestic sanitation alone.

The classification sufficiently indicates the class of objects desired for exhibition. The Committee would impress upon exhibitors the desirability of, as far as possible, exhibiting their own manufactures only, not those of other makers; and also of restricting their exhibits to typical examples of their appliances, and of not sending more than a single example of each article. Indeed, the Committee cannot undertake to find space for things which are substantially duplicates of one another.

As the Exhibition will be a place of popular resort, and is intended for the instruction of the general public rather than specialists, it will be desirable that exhibitors of sanitary wares should assist the Committee in making such arrangements as will bring the articles which it is necessary to show before the notice of the public in a manner as agreeable as possible. It will, of course, be necessary to show examples of closets, urinals, &c., but these should be so arranged that, while it may be possible for anybody desiring to inspect their action to have full opportunity of doing so, they yet will not attract general attention in an undesirable manner.

---

The Ichthyophagi, or fish-eaters, the population along the sea-shore, or along the banks of lakes and large rivers, are a healthy, fertile, prosperous people; reputed to be unusually prolific.

Vaseline has been recommended as the best substance for mounting corks and glass stoppers to prevent the evaporation of alcohol from specimen jars, or from bottles containing chloroform, &c. The cork or stopper should be well smeared and firmly inserted.

# Our Letter : Box

"Conference [maketh] a ready man."—*Bacon.*

*NOTICES TO CORRESPONDENTS.*

*All Communications for the Editorial Department (including specimens of Sanitary Appliances, &c.), to be addressed to* "The Editor of Health," 74-76, *Great Queen-street, London, W.C. Those intended for the Publishing Office to be sent to* "The Publisher," *at the same address.*

*Contributors are requested to send stamps for the return of the* MSS. *in event of non-acceptance. Every care will be taken to ensure the safety of* MSS., *but the* Editor *and* Publishers *cannot hold themselves responsible for accidental loss.*

*Correspondents are requested to write on one side of the paper only. The* Editor *disclaims responsibility for the opinions expressed by Correspondents.*

## LETTERS TO THE EDITOR.

### DISEASE GERMS IN WATER.

Sir,—In your last issue you ask the question, "Can any system of filtration of water be depended upon for the destruction of disease germs which may be therein contained?" To this question I beg respectfully to reply, "Yes." And I will, with your kind permission, endeavour to prove it.

The first point to consider is, What are the germs of disease? and the second, What is the system of filtration that will free the water of such germs? You yourself say that the germs of cholera and typhoid fever measure the five or ten thousandth part of an inch. We thus know what it is that filter-makers have to deal with, whether they be called bacteria, bacilli, infusoria, animalcules, microbes, spores, or germs, they are microscopic things, but still they have a body more or less active, and so capable of being separated from liquids by filtration. The only point, therefore, to consider is, What system of filtration can be relied upon to effect this object?

For the purpose of illustration we may imagine a river carrying down in its course all sorts of impurities. We might put across its bed a grating that would stop the dead cats, dogs, and sticks; a little lower down one that would arrest the dead rats and mice; further on one to stop the dead leaves, weeds, and fish; again, one that would stop the water-fleas, and, after this, a succession of gratings, or metallic screens, the passages or pores of which would diminish in size, until we reach a degree of porosity which would not allow a germ measuring the twenty-thousandth part of an inch to pass.

This plan would, of course, not be practicable, on account of the expense it would entail, but I think you will agree with me that it is scientifically possible to attain this result.

By the way, there is a considerable misapprehension on the part of many well-informed people as to the possibility of destroying the vitality of these germs by chemical means or by boiling. I have it on the authority of Dr. Hodgkinson, of the Government Science School, Kensington, that the vitality of bacteria is not destroyed by any chemical agent, not even by strychnine. They may be benumbed and rendered apparently lifeless for a time, but if they are placed in a suitable field they soon recover their activity. Some of these low germs or seeds of life do not seem to be affected either by chemical poisons or by being subjected to the action of boiling more than the seed contained in cherry stones. But we must return to our subject, which is the separation of these germs from water by filtration.

The water companies, in purifying their supply, exactly reverse the plan we have described above. Their finest screen is the first filtering medium to be met by the suspended impurities. This screen, formed of sand, is, at best, but coarse. If a vessel be filled to the brim with the sand used by the companies a great deal of water can be poured in the vessel before it overflows. This shows that the voids or passages between the particles of filtering medium are comparatively large, and certainly not able to arrest germs which measure the five or ten thousandth part of an inch; and if once they pass the first and finest barrier, they have plenty of room in the coarse gravel and shingles below to breed and multiply; they easily pass away with the filtered water in the full vigour of life, and it sometimes happens that the filter bed is really a bed of infection, as was recently proved to be the case at Bangor.

The domestic filters brought hitherto before the public have been constructed of screens made up of sand, charcoal, or other substances in a granulated state, so coarse that the little germs in question have had no difficulty in making their way through, and thus far I must agree with you, that "something more than mere filtration, as commonly understood and practised, is required."

I have now to prove that there is a system of filtration of water which can be depended upon for the destruction (or separation) of disease-germs which may be contained therein. This system is that embodied in the principle and action of my patent "Filtre Rapide," which has now been adopted by the War-Office, to the exclusion of all others. Fifty of these filters—capable of purifying upwards of a thousand gallons of water per hour—have been sent to Souakim for the use of the troops (*Vide Daily News*, March 1, 1884, and the *Engineer*, March 7, 1884).

In my patent "Filtre Rapide," the first screen consists of a thick layer of granulated carbon, which arrests the coarser impurities found in water, and prevents the finer screens being choked up by them. The final screen through which the water has to pass consists of a pure asbestos tissue, a square inch of which contains hundreds of thousands, if not millions, of perhaps the finest known fibre, and the water passes through this asbestos-cloth more by capillarity along the fibres than by percolation. But, fine as this filtering medium is when wet, it would fail to arrest all the little germs. To obtain a screen that will absolutely arrest them all, I deposit on the asbestos-cloth a layer of prepared carbon, ground to an impalpable powder. It is, in fact, in as fine a state of division as it is possible to be. The layer is perfectly even, being deposited by the current of the water first passed through the filter, and it offers a barrier a hundred-fold closer than all the metallic screens which we have been imagining as necessary to arrest the bacteria. It will be understood that the pores of metallic or sand screens have smooth surfaces and fixed channels, whilst the surfaces of the particles of carbon which I use are extremely rough, and each particle contains in itself innumerable pores, so that the water which has to pass through it is divided in its smallest atoms, hence its "chemical or physico-chemical" action (described by the *Engineer*, March 7, 1884). It would be difficult to calculate the amount of straining and adhesive surface presented to the water by a square inch of this filtering medium, one-eighth of an inch thick. It can, however, be safely estimated at upwards of 200,000 square inches.

Now let us for a moment revert to our imaginary river and series of screens.

We have seen that the first grating has stopped the dead cats and dogs. Well, if these are not removed within a certain time, they fall into decomposition and become partly dissolved; and so the water carries with it dissolved cat and dog. This illustration necessarily points to the necessity of removing periodically the impurities arrested by filters. This is now so well recognised that even *Punch* says the difficulty is to find the filter (among the old-fashioned ones) that will do the least harm, and I need hardly add that whoever values his health and that of his friends, should put to himself this simple question: If it be necessary to cleanse my cistern, how much more important is it to cleanse my filter? And to clean a filter does not mean to scrape a block or to blow through the tap, but to take the filtering medium bodily out of the filter, and throw it away along with the impurities arrested.

The Government have directed that my filters which they have sent to Egypt shall be so cleansed once a month, or, if the water be very bad, once a fortnight. In London, once or twice a year will suffice.

This letter has reached a length far beyond my first intention, and my only excuse is the importance of the subject.—I am, sir, your obedient servant,

P. A. Maignen.

22 and 23, Great Tower-street, London, E.C.,
March 15, 1884.

### THE BATTLE OF THE FILTERS.

Sir,—I am glad to find that in Health for March 14th you call attention to, and invite evidence on, the most important subject of filtration. During the Fisheries Exhibition last year a new form of filter known as the "Filtre Rapide" came under my notice, and since then I have devoted some time to careful experiments with it. The filtering medium in this case consists of a layer of very fine powdered carbon which is deposited on asbestos-cloth. The results of my experiments have proved that not only are mechanically suspended and dissolved solids removed from water by this filter, but that gases dissolved in water are also most effectually removed. I prepared solutions charged with ammonia and sulphuretted hydrogen—two gases which, it is well known, are produced during the decay of organic matter, and which are always present in sewage. On passing these solutions through the filter I found that the

gases were removed, the filtered water not containing even a trace. Now, whatever may be the exact molecular relationship which exists between the gases in question and the water in which they are held, there is no doubt but what the gas is in an extremely fine state of division. The finest chemically-prepared precipitate, consisting of particles in a most minute state of division, is abstracted from the water by this filtering medium. It appears, therefore, even more than probable that the most minutely divided matter—inorganic or organic—including even germs and bacteria, are removed from water by this system of filtration. But although the filtering medium employed may possess most powerful oxydising properties, yet it becomes exceedingly difficult to prove that the germs which it doubtless removes are also "*destroyed*." It would be interesting to know what experiments have been performed with the view of proving that any of the media employed at present for filters proves this property.*

Trusting that the importance of this subject will be accepted as some excuse for the length of this letter,—I remain, sir, yours faithfully,

JOHN J. PILLEY.

The Chemical Laboratory,
Charterhouse School of Science, Goswell-road, E.C.
March 22nd.

## QUERIES AND ANSWERS.

[IMPORTANT TO CORRESPONDENTS.—We have again to call attention to the fact that, while every effort is made week by week to deal with the enormous mass of correspondence which reaches us, we cannot undertake to answer queries save as space permits. All queries are attentively considered and replied to, but in no case can any query be answered in the same week as that in which it is received.]

[A number of replies have been crowded out of the present number owing to pressure in space. These replies will be duly given next week.]

[Letters addressed otherwise than to the *Editor* of HEALTH, at 74, Great Queen-street, London, W.C., will not be attended to.]

[We beg to announce to our correspondents that, save in exceptional cases, or where addresses of medical men, &c., are desired, we cannot reply to inquiries by letter.]

### GENERAL.

ABEL B.—Carpus is simply a technical term for the wrist; the palm of the hand being called the metacarpus.

J. ANDERSON.—Woolsorters' disease is certainly caused by a living particle of the nature of a germ.

MABEL.—The practice is highly dangerous, and cannot be indulged in without great risk. We should strongly advise you to try some other means. It is quite evident you are not in a good state of health.

ERGO.—We do not understand your inquiry; please write again, stating more plainly what you require. Queries, to have a chance of receiving an early reply in HEALTH, ought to be short and concise. If you got a glimpse of even a day's correspondence which arrives at our office, you would understand the necessity for such a request.

MRS. WILKINS.—If you will submit the recipes to us in manuscript, we shall be able to judge whether or not they are suitable for HEALTH.

W. L.—The proportions are good. The number of sheets required in the condenser depend so considerably on the way in which it is built up, the thinness of the dielectric, &c., that to lay down any rule would be unsafe. Experiment is the best teacher; start with 20. Certainly 1½ in.

### SANITARY.

INTERESTED.—Paris green is an aceto-arsenite of copper. Five and a-half ounces of this poisonous compound have been found in a green tarlatan dress of 16 yards. In bedroom chintz, an amount of arsenic equal to $45\frac{1}{10}$ grains have been found in each square yard. It is a mistake to suppose that only green papers or materials contain arsenic.

VOX.—The incident you mention, we believe, is that of Grasseni, whose voice was reduced an octave by the relaxing effect of English air. Her voice recovered on her return to Italy.

WORKMAN.—Brassfounders' ague appears to be caused by the oxide of zinc.

INSPECTOR.—The "Alkali Act" bears the date 1863.

### MEDICAL.

PUERI MATER.—Medical opinions seem to differ materially regarding your boy. We are discharging our best duty to you in advising you to take the child to a good London physician. On receipt of stamped addressed envelope, we shall send you name of physician in whom you may have all confidence.

F. W. S.—No. Not too often. We should recommend you to take a little cod-liver oil for a time, after your meals, by way of strengthening you; and you might likewise try the effect of sniffing "Alkaram." For scurf in the head, use a soft brush and apply glycerine of borax at night to the roots of the hair. Who told you your skull was thinner than that of other people?

RHEUMATIC.—We believe the expression applies to new cider. It is, of course, an American expression. We should think in certain cases the remedy you mention is likely to do good.

PENITENT.—Yours is a common case; but you must on no account be depressed or morbid, as you will get perfectly well by attention to ordinary health matters. In your case we should recommend open-air exercise (not to be overdone), cold sponging each morning, sleeping on a hard mattress, avoiding fluids late at night, and for a short time taking a teaspoonful of Fellows' "Syrup of the Hypophosphites" twice daily in a wineglassful of water, before meals.

MRS. FREETHINKER.—We fancy in your case there may be some slight tendency towards gout or rheumatism; there are certain other features in your case which, in our opinion, render it desirable for you to have a consultation with a physician. This will certainly constitute the only sure means of giving you relief. We shall be glad, if desired, to send you the address of a reliable authority on receipt of stamped addressed envelope.

L. M.—We sympathise greatly with a case like yours. We do not think that yours is a case for drugs. You naturally exaggerate your troubles a little. Our advice to you is to take a thorough change; probably either Scotland or the seaside will suit you. Prior, however, to leaving town we should advise you to see a physician accustomed to treat cases such as yours, and we shall be glad, if desired, to send you addresses on receipt of stamped, addressed envelope. You mistake the nature of the secretion you name, and an interview with a physician, considering the past history of your case, would satisfactorily resolve many of your doubts, and greatly relieve your mind. We shall be glad to be of any further service.

Z. Y. X.—Try eating charcoal biscuits, and specially look to the condition of the teeth. An offensive breath, as often as not, arises from want of care of the teeth. Use camphorated chalk as a tooth-powder.

JOHNSON.—You must not get into the habit of taking aperients; follow the advice regarding light, nutritious food given to "W. A. P." below. Also take a little "Pepsine" along with your food daily. It is possible that in your case the addition of vegetables to your dietary may assist you. We shall be glad to hear from you again, after a trial of this advice.

W. A. P.—You seem to be in a general state of low health. You must avoid all stimulation either of body or mind. Look to your food first of all, let it be light and nourishing; give up tea, coffee, and all stimulants for a time. After food you might take a powder consisting of 4 grains powdered rhubarb and 3 grains of "Pepsine." If this treatment does not improve your condition, write again.

WELLINGTONIAN.—We think the following will do you good:—Citrate of iron and quinine, one and a half drachms; carbonate of ammonia, 2 drachms; tincture of orange-peel, 2 ounces; add water to make up 6 ounces; a tablespoonful thrice daily. Let us hear the result of this treatment.

D. F. K.—There is very little doubt that the surgeon's advice is both sound and judicious. Of course the jacket may be removed occasionally for washing the body. You should consult your doctor concerning every phase of the child's illness, as it is evident the child requires more or less constant medical supervision.

T. T. TOY.—We fancy the following will do you good:—Sulphide of lime, 24 grains; sugar of milk, half an ounce. Mix thoroughly; keep in a stoppered bottle. Take five grains, or as much as will lie on a sixpence, every four hours. Food to be nourishing and not over stimulating.

W. SCOTT.—Thanks for your letter. The practice you name is decidedly injurious to health. We note the contents of your letter for future use.

MR. D. R.—Yes, drinking Potass Water is certainly good for you. See advice to "Tempus" and "Dart" in No. 51, and if not improved write again.

* This is precisely the point at issue, and regarding which we cordially invite further evidence.—ED.

Nox.—1. What you complain of is perfectly natural, you must not grow morbid. See advice to "Dart" in Health, No. 51. 2. Try the effect of a little pure Vaseline, if this does not relieve the itching apply a lotion, consisting of one drachm bicarbonate of soda added to one and a half ounces of glycerine. 3. No abnormality in what you complain of.

An Appreciator.—We do not know the hair preparation to which you refer. You should use that recommended to "Russell" in No. 48 Health.

Agnostic.—You are evidently morbid, and require to exert a strong mental effort as well as to adopt physical means of recovery. See advice to "Dart," Health No. 51, and follow the same. By attention to your general health you will recover from all your symptoms.

A Thankful Subscriber.—There is no doubt that from your letter you have worked yourself into a highly nervous and irritable state of mind. Your cure would be accomplished, by attention to your general health, by a change of air, and by a trial of the tonic and other means recommended to "Dart," in Health No. 51. Glad to be of any further service.

Hamlet.—We cannot undertake to search a file of Health for you; our time is much too valuable for such a proceeding. If you care to state your exact wishes we shall endeavour to give you a special reply.

A. Nicholson.—We note your letter, and hope to deal with the subject you mention in good time.

Dot.—Not the slightest fear of what you dread. Use a little warm oil as an application to the sore part; it will get quite well in a little time.

A. T.—The symptoms you describe resemble those of St. Vitus' dance, especially from their affecting the left side. The case should be seen and treated by a competent physician.

H. H. Later.—We do not think, considering the improvement you have made in the basement of your house, that the soil can have the slightest effect upon your ailment. Your district is quite as healthy as most others.

John Hamilton.—We quite agree with you; the practice of boxing children's ears is not merely liable, as in your own case, to cause permanent deafness, but is objectionable on many other grounds. No wise teacher ever punishes a child so. It would be well if School Boards issued some distinct instructions regarding this baneful practice.

Trust.—See and follow advice given to "Dart," Health, No. 51. It is quite evident you are in a highly morbid state. There is, however, no cause for any alarm.

R. W. F.—We think a vegetable dietary should be tried as an experiment in your case. Possibly this may obviate all necessity for aperients; but, if not, you might try a little Æsculap Water, taken occasionally in the mornings, as a mild aperient. Regarding the mercurial preparation, there is, of course, a danger in using any such drug for any length of time. Your medical advisers should, however, be the best judges of the advisability of your continuing or leaving off the preparation.

Hazelhurst.—The only establishment we know of which would be likely to receive your boy is the Earlswood Asylum for Idiots. You should write there, stating the particulars of the case, and obtain information regarding charges, &c. The Royal Albert Asylum, at Lancaster, is another institution regarding which you might make inquiries.

Edina.—In a case like yours we should strongly advise you to undergo a thorough medical examination. There are symptoms in your case which may possibly be of comparatively trivial nature, but which, nevertheless, should be investigated by a competent physician. We shall be glad, if desired, to send you the address of a competent London authority on receipt of a stamped-addressed envelope.

C. V.—The best light and handy weighing-machine we know of is Fairbanks'. The price is £4; and it may be seen and inspected at 108, Upper Thames-street, London, E.C.

Sperans.—What has been said to "Edina" above regarding the advantages of a thorough medical examination applies likewise to your case. We certainly approve of your giving up work for a time and seeking a change of air. The foods you mention are nutritious, but we should recommend Brand's "Beef Essence" in preference to any other or "Kreochyle." There are no indications whatever in your letter of epileptic symptoms. Our own opinion is that you simply require rest and fresh air. The tonic recommended to "Allan Grey," No. 51 of Health might be tried. Glad to be of any further service if necessary.

Berbice.—Possibly an injection once or twice daily of a little "Condy's Fluid" and tepid water—about one part Condy to twenty parts water—would do you good. The advice given to "Dart," in No. 51, likewise applies to your case. In future you will kindly address editor, not publishers.

Smabbutt.—1. It is impossible to prescribe a depilatory which will remove superfluous hairs without to a certain extent injuring the skin, or at least irritating it. The following is a depilatory of the type commonly used:—Sulphide of sodium, three drachms; lime, ten drachms; starch, ten drachms. Mix with water to make a paste. Apply a little to the skin for two minutes, then scrape off. 2. In all probability the mattress might be so disinfected, but in the case of a straw mattress, we should esteem it safer to destroy it.

J. M.—No doubt a sea voyage would do you good. See advice to "Dart," No. 51.

Seaside.—We should advise you to have a well-fitting elastic stocking made for your leg, and to sleep with your feet elevated on a pillow, so as to favour the return of the blood in the veins. You ought to know also that constipation should be avoided above all things else in your case.

W. Waddel.—Try the effect of hot salt-water bathing at night, and if the pain is troublesome, take 15 grains of Bromide of Potass in a wineglassful of water on going to bed.

Elder Lee.—Yes; you might try a little Æsculap water as a mild aperient in the morning, and "Feltoe's Specialité Lime Juice" would also do you good. We might suggest that a little quinine taken at any time you are threatened with an attack, would probably tend to cure you.

R. B. L.—No need to be alarmed, and had certainly no need to begin any such practice as you mention. See, and follow, the advice given to "Dart" in No. 51. Take more open-air exercise, and don't allow yourself to become morbid in any way.

Maltine.—Yes; maltine is in itself a valuable means of bodily nourishment. You should try the Maltine Company's preparation of this substance in combination with cod liver oil.

Anxious Father.—We sympathise very much with you in your anxiety regarding your child. There seems no doubt it is a somewhat complex case, and we think our duty to you best discharged by advising you to consult a reliable authority on children's diseases. The address of such authority we shall be glad to send you on receipt of stamped addressed envelope.

Sallie.—You might try the effect of hot salt water baths taken occasionally at night. Rubbing with warm oil over the affected parts may also tend to ease you.

Digna.—You should note that it is the Editor and not the Publisher of Health who receives and answers inquiries. In future, no letters can be answered, which are not properly addressed. Your best plan is to consult a surgeon, who will be able without pain to remedy the condition of which you complain.

Christchurch.—We do not think that the soda can really account for any of the effects you mention. Certainly, to use crude soda in boiling vegetables is a baneful practice; but the small quantity of carbonate used, according to your own account, cannot have any perceptible influence on your health. We have forwarded your letter to a practical authority on cookery, and will publish reply when received.

Cheveux.—Try the recipe recommended to "Russel" in No. 48, as a hair tonic.

Diamond.—To a certain extent we agree with you. There is no doubt that the "cram" system is a highly complex matter, and one involving so many issues pertaining to health and otherwise, that it can only be settled by calm and full consideration between teachers, medical men, and the Education Department. One thing seems perfectly clear and reasonable, namely, that we must first consider the health and physical constitution of the child, and its education afterwards. Do not you think that parents by the exercise of a little common intelligence could supervise sufficiently the health and abilities of their own children, and at once prevent all ill effects by ceasing educational over-pressure when ill effects appeared?

Knock-Knees.—Attend to your general health, and if you can afford it, try horse-riding. Sleep with a pillow between your knees, and fasten the ankles together with a handkerchief. Write to Messrs. Dowie & Marshall, 455, Strand, London, and have the heels of your boots raised and extended along the inside of the waist of the boot, so as to throw the feet slightly on one side. The boots to be strong lace-up ones, which will support the ankles.

J. Bunyan.—See advice given to "Knock-Knees" above regarding the advisability of your having a proper boot made by Messrs. Dowie & Marshall. You have your boots to thank for your bunion, though you may not think so. Try the effect of rest and applying the following lotion on lint, covered with oiled silk, for three or four days:—Two drachms tincture of arnica to be added to 8 oz. of water to make a lotion. The tincture of veratrum viride might be painted on the inflamed bunion. You might try for the fleas the "B. B. B. Insect Destroyer."

Senex.—We should advise you to try the effect of a good tonic, and of still further attempting to reduce the opium. The tonic

[*Continued on page* 432.

# CHATTO & WINDUS, PUBLISHERS.

ALLEN (GRANT) Works by:
COLIN CLOUT'S CALENDAR. Crown 8vo., cloth extra, 6s.
THE EVOLUTIONIST AT LARGE. Crown 8vo., cloth extra, 6s.
VIGNETTES FROM NATURE. Crown 8vo., cloth extra, 6s.
ARCHITECTURAL STYLES, A HANDBOOK of. Translated from the German of A. Rosengarten, by W. Collett-Sandars. Crown 8vo., cloth extra, with 639 Illustrations, 7s. 6d.

BACTERIA.—A SYNOPSIS OF THE BACTERIA AND YEAST-FUNGI AND ALLIED SPECIES. By W. B. Grove, B.A. With numerous Illustrations. Crown 8vo., cloth extra, 3s. 6d. [*Preparing.*

BARDSLEY (Rev. C. W.), Works by:
ENGLISH SURNAMES: Their Sources and Significations. Crown 8vo., cloth extra, 7s. 6d.
CURIOSITIES OF PURITAN NOMENCLATURE. Crown 8vo., cloth extra, 7s. 6d.

BIRTHDAY BOOK.—The STARRY HEAVENS: A Poetical Birthday Book. Square 8vo., handsomely bound in cloth, 2s. 6d.
BIRTHDAY FLOWERS: Their Language and Legends. By W. J. Gordon. Beautifully Illustrated in Colours by Viola Boughton. In illuminated cover, crown 4to., 6s.
BRAND'S OBSERVATIONS ON POPULAR ANTIQUITIES, chiefly illustrating the Origin of our Vulgar Customs, Ceremonies, and Superstitions. With the Additions of Sir Henry Ellis. Crown 8vo., cloth extra, gilt, with numerous Illustrations, 7s. 6d.

BREWER (Rev. Dr.), Works by:
THE READER'S HANDBOOK OF ALLUSIONS, REFERENCES, PLOTS, and STORIES. Third Edition, revised throughout, with a New Appendix, containing a COMPLETE ENGLISH BIBLIOGRAPHY. Crown 8vo., 1,400 pages, cloth extra, 7s. 6d.
A DICTIONARY OF MIRACLES: Imitative, Realistic, and Dogmatic. Crown 8vo., cloth extra, 7s. 6d. [*Shortly.*
BREWSTER (Sir DAVID), Works by:
MORE WORLDS THAN ONE: The Creed of the Philosopher and the Hope of the Christian. With Plates. Post 8vo., cloth extra, 4s. 6d.
THE MARTYRS OF SCIENCE: Lives of GALILEO, TYCHO BRAHE, and KEPLER. With Portraits. Post 8vo., cloth extra, 4s. 6d.
LETTERS ON NATURAL MAGIC. A New Edition, with numerous Illustrations, and Chapters on the Being and Faculties of Man, and additional Phenomena of Natural Magic, by J. A. Smith. Post 8vo., cloth extra, 4s. 6d.

CHATTO & JACKSON.— A Treatise on Wood Engraving, Historical and Practical. By Wm. Andrew Chatto and John Jackson. With an additional Chapter by Henry G. Bohn; and 450 fine Illustrations. A Reprint of the last Revised Edition. Large 4to., half-bound, 28s.

CONVALESCENT COOKERY: A Family Handbook. By Catherine Ryan. Post 8vo., cloth limp, 2s. 6d.

CUSSANS.—HANDBOOK OF HERALDRY: with Instructions for Tracing Pedigrees and Deciphering Ancient MSS., &c. By John E. Cussans. Entirely New and Revised Edition, Illustrated with over 400 Woodcuts and Coloured Plates. Crown 8vo., cloth extra, 7s. 6d.
DAVENANT.—WHAT SHALL MY SON BE? Hints for Parents on the Choice of a Profession or Trade for their Sons. By Francis Davenant, M.A. Post 8vo., cloth limp, 2s. 6d.

DAVIES (Dr. N. E.), Works by:
ONE THOUSAND MEDICAL MAXIMS AND SURGICAL HINTS, for Infancy, Adult Life, Middle Age, and Old Age. Crown 8vo., 1s.; cloth, 1s. 6d.
NURSERY HINTS: a Mother's Guide in Health and Disease. Crown 8vo., 1s.; cloth, 1s. 6d.

HAIR (The): Its Treatment in Health, Weakness, and Disease. Translated from the German of Dr. J. Pincus. Crown 8vo., 1s.; cloth, 1s. 6d.

EMANUEL.—ON DIAMONDS AND PRECIOUS STONES: their History, Value, and Properties; with Simple Tests for ascertaining their Reality. By Harry Emanuel, F.R.G.S. With numerous Illustrations, tinted and plain. Crown 8vo., cloth extra, gilt, 6s.
ENGLISHMAN'S HOUSE, The: A Practical Guide to all interested in Selecting or Building a House, with full Estimates of Cost, Quantities, &c. By C. J. Richardson. Third Edition. With nearly 600 Illustrations. Crown 8vo., cloth extra, 7s. 6d.

FAIRHOLT.—TOBACCO: Its History and Associations; with an account of the Plant and its Manufacture, and its Modes of Use in all Ages and Countries. By F. W. Fairholt, F.S.A. With Coloured Frontispiece and upwards of 100 Illustrations by the Author. Crown 8vo., cloth extra, 6s.

FAMILIAR ALLUSIONS: A Handbook of Miscellaneous Information; including the Names of Celebrated Statues, Paintings, Palaces, Country Seats, Ruins, Churches, Ships, Streets, Clubs, Natural Curiosities, and the like. By William A. Wheeler, Author of "Noted Names of Fiction;" and Charles G. Wheeler. Demy 8vo., cloth extra, 7s. 6d.

FARADAY (MICHAEL), Works by:
THE CHEMICAL HISTORY OF A CANDLE: Lectures delivered before a Juvenile Audience at the Royal Institution. Edited by William Crookes, F.C.S. Post 8vo., cloth extra, with numerous Illustrations, 4s. 6d.
ON THE VARIOUS FORCES OF NATURE, and their Relations to each other; Lectures delivered before a Juvenile Audience at the Royal Institution. Edited by William Crookes, F.C.S. Post 8vo., cloth extra, with numerous Illustrations, 4s. 6d.

GARDENING BOOKS:
A YEAR'S WORK IN GARDEN AND GREENHOUSE. Practical Advice to Amateur Gardeners as to the Management, of the Flower, Fruit, and Frame Garden. By George Glenny. Post 8vo., cloth limp, 2s. 6d.
OUR KITCHEN GARDEN: The Plants we Grow, and How we Cook Them. By Tom Jerrold, Author of "The Garden that Paid the Rent," &c. Post 8vo., cloth limp, 2s. 6d.
HOUSEHOLD HORTICULTURE: A Gossip about Flowers. By Tom and Jane Jerrold. Illustrated. Post 8vo., cloth limp, 2s. 6d.
THE GARDEN THAT PAID THE RENT. By Tom Jerrold. Fcap. 8vo., illustrated cover, 1s.; cloth limp, 1s. 6d.
MY GARDEN WILD, AND WHAT I GREW There. By Francis George Heath. Crown 8vo., cloth extra, 5s.; gilt edges, 6s.

GREEKS AND ROMANS, The Life of the. Described from Antique Monuments. By Ernst Guhl and W. Koner. Translated and Edited by Dr. F. Hueffer. With 545 Illustrations. New and Cheaper Edition, demy 8vo., cloth extra, 7s. 6d.

GUYOT.—THE EARTH AND MAN; or, Physical Geography in its relation to the History of Mankind. By Arnold Guyot. With Additions by Professors Agassiz, Pierce, and Gray; 12 Maps and Engravings on Steel, some Coloured, and Copious Index. Crown 8vo., cloth extra gilt, 4s. 6d.

HOLMES.—THE SCIENCE OF VOICE PRODUCTION and VOICE PRESERVATION: a Popular Manual for the Use of Speakers and Singers. By Gordon Holmes, M.D. Crown 8vo., cloth limp, with Illustrations, 2s. 6d.

JANVIER.—PRACTICAL KERAMICS FOR STUDENTS. By Catherine A. Janvier. Crown 8vo., cloth extra, 6s.

JONES (WILLIAM, F.S.A.), Works by:
FINGER-RING LORE: Historical, Legendary, and Anecdotal. With over 200 Illustrations. Crown 8vo., cloth extra, 7s. 6d.
CROWNS AND CORONATIONS: A History of Regalia in all Times and Countries. With about 150 Illustrations. Crown 8vo., cloth extra, 7s. 6d.
CREDULITIES, PAST AND PRESENT. By William Jones, F.S.A. With an Etched Frontispiece. Crown 8vo., cloth extra, 7s. 6d.

MILLER.—PHYSIOLOGY FOR THE YOUNG; or, The House of Life: Human Physiology, with its application to the Preservation of Health. For use in Classes and Popular Reading. With numerous Illustrations. By Mrs. F. Fenwick Miller. Small 8vo., cloth limp, 2s. 6d.

MILTON (J. L.), Works by:
THE HYGIENE OF THE SKIN. A Concise Set of Rules for the Management of the Skin; with directions for Diet, Wines, Soaps, Baths, & c. Small 8vo., 1s.; cloth extra, 1s. 6d.
THE BATH IN DISEASES OF THE SKIN. Small 8vo., 1s.; cloth extra, 1s. 6d.
THE LAWS OF LIFE, and their Relation to Diseases of the Skin. Small 8vo., 1s.; cloth extra, 1s. 6d.
PLANTS, THE SAGACITY AND MORALITY OF: a Sketch of the Life and Conduct of the Vegetable Kingdom. By J. E. Taylor, F.L.S., &c. With numerous Illustrations. Crown 8vo., cloth extra, 7s. 6d.
PLANTS, THE FOLK-LORE OF. By T. F. Thiselton Dyer, M.A. Crown 8vo., cloth extra, 7s. 6d. [*In preparation.*
PROCTOR (RICHARD A.), Works by:
FLOWERS OF THE SKY. With 55 Illustrations. Small crown 8vo., cloth extra, 4s. 6d.
EASY STAR LESSONS. With Star Maps for Every Night in the Year, Drawings of the Constellations, &c. Crown 8vo., cloth extra, 6s.
FAMILIAR SCIENCE STUDIES. Crown 8vo., cloth extra, 7s. 6d.
ROUGH WAYS MADE SMOOTH. A Series of Familiar Essays on Scientific Subjects. Crown 8vo., cloth extra, 6s.
OUR PLACE AMONG INFINITIES: A Series of Essays contrasting our Little Abode in Space and Time with the Infinities Around us. Crown 8vo. cloth extra, 6s.
THE EXPANSE OF HEAVEN: A Series of Essays on the Wonders of the Firmament. Crown 8vo., cloth extra, 6s.
SATURN AND ITS SYSTEM. New and Revised Edition, with 13 Steel Plates. Demy 8vo., cloth extra, 10s. 6d.
THE GREAT PYRAMID: Observatory, Tomb, and Temple. With Illustrations. Crown 8vo., cloth extra, 6s.
MYSTERIES OF TIME AND SPACE. With Illustrations. Crown 8vo., cloth extra, 7s. 6d.
WAGES AND WANTS OF SCIENCE WORKERS. Crown 8vo., 1s. 6d.
RAMBOSSON.—POPULAR ASTRONOMY. By J. RAMBOSSON, Laureate of the Institute of France. Translated by C. B. Pitman. Crown 8vo., cloth gilt, with numerous Illustrations, and a beautifully executed Chart of Spectra, 7s. 6d.

RICHARDSON.—A MINISTRY OF HEALTH, and other Papers. By Benjamin Ward Richardson, M.D., &c. Crown 8vo., cloth extra, 6s.

STAUNTON.—LAWS AND PRACTICE OF CHESS: Together with an Analysis of the Openings, and a Treatise on End Games. By Howard Staunton. Edited by Robert B. Wormald. A New Edition, small crown 8vo., cloth extra, 5s.

WILSON (Dr. ANDREW, F.R.S.E.), Works by:
CHAPTERS ON EVOLUTION: A Popular History of the Darwinian and Allied Theories of Development. Second Edition. Crown 8vo., cloth extra, with 259 Illustrations, 7s. 6d.
LEAVES FROM A NATURALIST'S NOTEBOOK. Post 8vo., cloth limp, 2s. 6d.
LEISURE-TIME STUDIES, chiefly Biological. Second Edition. Crown 8vo., cloth extra, with Illustrations, 6s.
WILLIAMS (W. MATTIEU, F.R.A.S.), Works by:
SCIENCE NOTES. See the GENTLEMAN'S MAGAZINE. One Shilling Monthly.
SCIENCE IN SHORT CHAPTERS. Crown 8vo., cloth extra, 7s. 6d.
A SIMPLE TREATISE ON HEAT. Crown 8vo. cloth limp, with Illustrations, 2s. 6d.

The Oldest and Most Widely Read of Popular Science Journals. Price Fourpence Monthly; or Five Shillings per Year, Post-Free.

## SCIENCE-GOSSIP.

AN ILLUSTRATED MEDIUM OF INTERCHANGE FOR STUDENTS AND LOVERS OF NATURE.
Edited by J. E. TAYLOR, Ph.D., F.L.S., F.G.S., &c.

Devoted to every Branch of GEOLOGY, BOTANY, PHYSIOLOGY, CHEMISTRY, ZOOLOGY, MICROSCOPY, TELESCOPY, PHYSIOGRAPHY, &c.

It contains Original Illustrated Articles by the best-known Writers and Workers of the day. A Monthly Summary of Discovery and Progress in every Department of Natural Science all over the world is given. New Books on Scientific Subjects are duly noticed or reviewed. A special feature is the large space devoted to Scientific "Notes and Queries," which enables every lover of nature to chronicle his own original observations, or get his special difficulties settled. For active workers and collectors the "Exchange Column" has long proved a well and widely known means of barter and interchange. The column devoted to "Answers to Correspondents," has been found helpful to students requiring personal help in naming specimens, &c. The volumes of *Science Gossip* for the last eighteen years contain an unbroken history of the Advancement of Natural Science within that period.

LONDON: CHATTO & WINDUS, PICCADILLY, W.

recommended to "Wellingtonian" in present number of Health, should suit you. It is just possible that you might aid your cure and break off your habit by taking 20 grains bromide of potass when the craving is most annoying. Glad to be of any further service.

Bohemian.—Your best guide to the Hydropathics of the United Kingdom would, we fancy, be either the articles on "Health Resorts" which were published in the first volume of Health, or the hotel advertisements of "Bradshaw's Guide." Most of the Hydropathics were noted in the Health articles, along with the characters of their situation. We are afraid the demands on our space will not permit us to adopt your suggestion. Any readers having anything to communicate may freely use our "Reply Columns."

Miss Dent.—See reply to "E. H." below; the advice there given should be taken by you.

E. H.—In such a case as yours, in which a general derangement of health seems present, we think you would gain most advantage from a consultation with a competent physician. He would be able to advise you thoroughly as to the best means for restoring health. We might only say that in our opinion a change of air and a visit to the seaside would probably effect a wondrous change in your state.

Highbury.—It is probable the irritation from which you suffer is due simply to local causes. We should advise you, firstly, to try the simple plan of avoiding all stimulants, attending strictly to the bowels, avoiding fluids late at night, and drinking freely during the day of barley-water. If this does not cure you, write again.

Sussexonian.—See advice to "Highbury" above. Small doses of "Æsculap Water" taken in the morning would prove a suitable aperient for you. There is only some local irritation, which careful attention to the general health should cure.

Signa.—We cannot assist you further. What you aim at is a physiological condition which really depends on general health alone. If you attend carefully to your general health, and use cold sponging each morning, avoiding stimulants, what you desire will doubtless follow.

E. L.—(When you require a reply in this column, you should attend to our instructions, repeated weekly, that it is the Editor, and not the Publisher, whom you should address. Correspondents who do not attend to this plain rule are liable to have their communications neglected.) Pumice-stone has no effect in preventing the grown of superfluous hairs. It cannot reach the hair-roots, which are deeply imbedded in the skin.

L. C.—To prevent cramps, sit and sleep with your feet raised. By raising the foot of the bed on a block of wood, cramp in bed is often prevented. Try also rubbing with warm oil before retiring to rest.

Ein Kraake.—The temperature of a cold bath ranges from 33° to 65° Fahr.; for a cool bath the range is between 65° and 75°; a temperate from 75° to 85°; a tepid 85° to 95°. You should be able to judge from your individual symptoms the limit of cold you can stand. In ordinary health a cold bath may be taken at the temperature of the water as drawn from the cistern, or after having remained in a bedroom over night. 2. Yes, varicose veins may be surgically treated; the operation is not serious, but would necessitate complete rest for a time.

Coningsby.—Try the effect of a change of air. You suffer probably from overwork. Bromide of potass not suited to your case. Change residence for a time and try country air. Take open-air exercise, and you will sleep well and gradually recover your tone.

J. J. D. G.—The medical advice your friend had is probably the best he could have obtained. The cure should consist in change of air, and in light, nourishing food. Try Morson's "Pepsine" with the food. It is not a case for drugs, but simply for measures calculated to improve the general health. Steer clear of all quacks—herbalists and others. Pulvermacher's belts (194, Regent-street, London, W.) are thoroughly genuine, in that they produce electricity in a marked degree. Send us any particulars regarding your quack adventures.

Erin.—1. Yes; cod-liver oil or the emulsion would do you good. 2. The nerve tonic you name is an excellent one and might certainly be tried. 3. Difficult to say. Have your eyes examined by a thoroughly competent oculist. Never trifle with eyesight. If spectacles are ordered, wear them. 4. Try a little Vaseline rubbed on the hands each night.


ELEGANT PRESENTS!

To save 25 to 50 per cent. by purchase

FIELDING'S HALL-MARKED JEWELLERY.

THE FINEST QUALITY MADE. TESTED AND MARKED AT GOLDSMITHS' HALL. Every one should see our New Illustrated Price List sent post-free.

*Any goods not approved can be returned within one week and the full amount will be refunded.*

Massive Silver Bracelet, exact to above ..... £0. 14s. 6d.
Ditto ditto in 15-carat Gold £4. 15s. 0d.
Morocco Cases, 2s. extra.

The Editor of "*Health*" says: "Messrs. Fielding Bros.' Gold and Silver Ornaments are marvels of cheapness and elegance."—See No. 36, 14th December, 1883.

FIELDING BROS. Wholesale Jewellers, 42z, Lombard-st. London.

CHLORALUM LIQUID and the following compounds are now made with great care in a highly improved form by a practical Chemist. Superior to any other non-poisonous disinfectant.

CHLORALUM POWDER should be used in Stables, Drains, Refuse Heaps, &c.

CHLORALUM WOOL is a powerful Styptic, and rapidly disinfects and cures idle and festering wounds.

CHLORALUM TOOTH-POWDER is wonderfully effective in removing Tartar, and is a pleasant and powerfull Tonic to the Gums. All should use it.

CHLORALINE is a most valuable liniment. Three applications a day copiously rubbed in will cure the worst Chilblain in three days. A powerful astringent lotion.

ABSORBENT WOOL absorbs liquid like a sponge. May be used with any dressing.

DOWIE & MARSHALL,

who were awarded the Silver Medals both at the National Health Society's Exhibition, 1883, and the Exhibition of the Rational Dress Association, make Ladies', Gentlemen's & Children's

BOOTS AND SHOES

in every kind, and keep many thousands ready for immediate use. *Price List Gratis.*

DOWIE & MARSHALL'S EASY BOOTS.

Only Address—455, WEST STRAND (Opposite Grand Hotel).

ESTABLISHED 60 YEARS.

F123
1 gal
130